

# Curriculum vitæ of Michel R. GODEFROID

(December 2, 2020)

Professor of the University, Université libre de Bruxelles (ULB)  
Research Director Emeritus of the “Fonds National de la Recherche Scientifique” (F.R.S.-FNRS)  
Honorary Doctor at Malmö University (Malmö, Sweden)

## 1 General informations

### 1.1. Name

Godefroid, Michel, René, Jean

### 1.2. Gender identity

Male

### 1.3. Place and date of birth

Ganshoren, 7 janvier 1954

### 1.4. Nationality

Belgian

### 1.5. Private address

17, Avenue des Gloires Nationales, B-1083 Bruxelles

### 1.6. Work address

Spectroscopy, Quantum Chemistry and Atmospheric Remote Sensing (SQUAReS)  
(formerly “Service de Chimie Quantique et Photophysique”)

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50, av. F.D. Roosevelt - 1050 Brussels, Belgium

### 1.7. Useful information

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### 1.8. Languages

French (mother tongue)

English: fluent

Dutch: basics

## 2 Academic degrees

- **Master degree in Chemistry**, U.L.B.,  
octobre 1975, la plus grande distinction.  
Mémoire de fin d'étude : *“Calcul a priori de forces d'oscillateur atomiques par optimisation d'un état de transition.”*
- **Agrégé de l'Enseignement secondaire supérieur**, U.L.B.,  
octobre 1977, grande distinction.
- **PhD in Sciences**, U.L.B.,  
janvier 1980, la plus grande distinction avec les félicitations du jury.
  - Thesis entitled: *“Etude théorique de forces d'oscillateur atomiques dipolaires et quadrupolaires électriques.”*
  - Annex thesis entitled: *“La technique de double résonance infra-rouge-radio-fréquence, utilisant des lasers à CO scellés, permettrait de mesurer avec grande précision la fréquence de nouvelles transitions rotationnelles dans l'état fondamental vibrationnellement relaxé de la molécule H<sub>2</sub>O.”*
- **Habilitation Thesis (“Agrégé de l'Enseignement supérieur”)** in Atomic and Molecular Physics, U.L.B., février 1992.
  - Thesis entitled: *“L'algèbre des moments angulaires, une méthode commune aux atomes et molécules pour le calcul de propriétés spectroscopiques.”*
  - Annex theses:
    1. *“Le formalisme des quasi-particules permet une vision globale de la couche électronique atomique et facilite l'évaluation des éléments matriciels. Cas de la configuration  $d^N$ .”*
    2. *“La spectroscopie à transformée de Fourier à haute résolution dans le domaine infrarouge peut affiner la connaissance actuelle des propriétés atomiques. Application à l'atome Sc et à l'ion Sc<sup>+</sup>.”*
    3. *“La méthode Hartree-Fock sur réseaux: une approche originale pour l'étude de la stabilité des molécules plongées dans des champs magnétiques très intenses.”*
  - Public lecture: *“Les effets isotopiques dans les atomes et les molécules.”*

## 3 Scientific career

### 3.1. Positions

- Boursier I.R.S.I.A. de l'Institut pour l'Encouragement de la Recherche Scientifique dans l'Industrie et l'Agriculture, octobre 1975–septembre 1978.
- Aspirant du Fonds National de la Recherche Scientifique, octobre 1978–janvier 1980.
- Research Associate auprès du Professeur C. Froese Fischer, Vanderbilt University, Nashville TN 37235, U.S.A., janvier 1981–décembre 1981.
- Chargé de Recherches du Fonds National de la Recherche Scientifique, janvier 1981–septembre 1982.
- Chercheur Qualifié du Fonds National de la Recherche Scientifique, octobre 1982–septembre 1992.
- Maître de recherches du Fonds National de la Recherche Scientifique, octobre 1992–septembre 1996.
- Directeur de recherches du Fonds National de la Recherche Scientifique, octobre 1996 - septembre 2002.
- Professeur ordinaire U.L.B., octobre 2002 – septembre 2019.
- Professeur de l'Université U.L.B., octobre 2019 –

### 3.2. Visiting scientist : cf. 5.2.1.

## 4 Teaching career

### 4.1. University lectures

#### 4.1.a. "Paysages" era (2016 - )

- **Bachelor lectures**

- Bachelier en sciences physiques - troisième année [PHYS3], PHYS-F304: Spectrophysique et Astrophysique - 5 ECTS (cours magistral: 44h, Exercices dirigés: 16h) (2015/16-2018/19), en co-titulariat avec S. Van Eck.
- Bachelier en sciences chimiques - troisième année [CHIM3], CHIM-F304: Structure et symétries moléculaires - 5 ECTS (cours magistral: 36h, Exercices dirigés: 24h) (2015/16-2018/19).

- **Master lectures** (optional)

- Master en sciences chimiques, CHIM-F401: Structures, symétries et dynamique quantique - 5 ECTS (cours magistral: 48h) (2015/16-2018/19), en co-titulariat avec N. Vaeck.
- Master en sciences physiques, PHYS-F431: Problèmes quantiques à  $N$  corps - 6 ECTS (cours magistral: 36h, Exercices dirigés: 12h) (2015/16-2018/2019)
- Master en ingénieur civil physicien - Bloc A3 [M-IRPHP/H270], PHYS-H502: "Advanced nuclear, atomic and molecular physics" - 5 ECTS (Cours magistral: 36h, Exercices dirigés: 12h, Travaux pratiques: 12h) (2016/17-2018/19)

- **Master lectures** (compulsory)

- Master en ingénieur civil physicien - première année [M-IRPHP/H270], PHYS-H405: Introductory nuclear, atomic and molecular physics - 5 ECTS (Cours magistral: 36h, Exercices dirigés: 12h, Travaux pratiques: 12h) en co-titulariat avec et Nicolas Pauly (TPs) et P. Capel (2015/16-2018/19), P. Descouvemont (2016/17)

#### 4.1.b. "Bologne" era

- **Bachelor lectures**

- Bachelier en sciences physiques - première année [PHYS1] - Participation aux séminaires et laboratoires associés au cours de Chimie générale CHIM-F-101 (2004/05-2009/10)
- Bachelier en sciences physiques - troisième année [PHYS3], PHYS-F307: Physique atomique et moléculaire - 3 ECTS (théorie: 2, travaux personnels: 1) (2006/07-2009/10)
- Bachelier en sciences chimiques - troisième année [CHIM3], CHIM-F304: Structures et symétries moléculaires - 5 ECTS (Théorie: 36h, Exercices: 24h), en co-titulariat avec J. Liévin et M. Herman, avec rotation du titulaire (2006/07-2014/2015)

- Bachelier en sciences physiques - troisième année [BA-PHYS], PHYS-F306: Physique nucléaire, atomique et moléculaire - 5 ECTS (Théorie: 36h, Exercices: 24h) (2010/11-2012/13, co-titulaire: P.-H. Heenen), (2013/14-2014/15, co-titulaire: M. Sferrazza)
- Bachelier en sciences chimiques - troisième année [CHIM3], CHIM-F315: Compléments de chimie physique moléculaire (travaux pratiques à option 60h) - Participation à l'encadrement
- **Master lectures** (compulsory)
  - Master en sciences chimiques (cours du tronc commun) CHIM-F448: Spectroscopies moléculaires - 3 ECTS (Théorie: 24h, Exercices: 12h), en co-titulariat avec J. Liévin et M. Herman, avec rotation du titulaire (2007/08-2014/15)
  - Master en ingénieur civil physicien - première année [IRPH4], PHYS-H404: Physique atomique et moléculaire - 3 ECTS (théorie: 2, exercices: 1) (2007/08 - 2014/15 )
- **Master lectures** (optional)
  - Master en sciences chimiques à finalité Approfondie, CHIM-F400: Applications de la théorie des groupes en chimie - 2 ECTS (Théorie: 2) , 4 ECTS (Théorie: 36h), en co-titulariat avec J. Liévin avec rotation du titulaire (2007/08-2014/15)
  - Master en sciences chimiques à finalité Approfondie, CHIM-F412: Computational atomic structure - 2 ECTS (théorie: 2) (2007/08-2009/10)
  - Master en sciences chimiques à finalité Approfondie, CHIM-F431: Rotation et non rigidité moléculaire - 2 ECTS (théorie: 2) (2007/08-2010/11)
  - Master en sciences chimiques à finalité Approfondie, CHIM-F452: Structures de vibration-rotation - 4 ECTS (Théorie: 36h) (co-titulaire: M. Herman) (2011/12-2014/15)
  - Master en sciences physiques à finalité Approfondie - option Astrophysique, cosmologie et microphysique, PHYS-F434: Spectrophysique et astrophysique - 3 ECTS (théorie: 2, travaux personnels: 1) (2007/08)
  - Master en sciences physiques, PHYS-F441: Spectroscopie nucléaire, atomique et moléculaire théorique 5 ECTS (Théorie: 24h, Exercices: 24h) (2010/11-2012/13 - co-titulaire: P.-H. Heenen), (2013/14-2014/15, co-titulaire: M. Sferrazza)
  - Master en sciences physiques, PHYS-F431: Problèmes quantiques à  $N$  corps 6 ECTS (Théorie: 36h, Exercices: 24h) (2014/15)

#### 4.1.c. Pre-Bologne era

- “Free courses” (U.L.B.)
  - “*Etudes spectroscopiques et quantiques d’atomes et molécules : Structures fines et hyperfines, aspects théoriques et expérimentaux*”, (15-0-0-0) en collaboration avec M. Herman, 1982-84.
  - “*Etudes spectroscopiques et quantiques d’atomes et molécules : Calculs ab initio, méthodes et applications*”, (15-0-0-0) en collaboration avec J. Liévin, 1984-86.
  - “*Transitions radiatives en spectroscopie*”, (15-0-0-0), 1986-89.

- **Suppléance** pour le cours A : “*Structure et spectroscopie moléculaires*” des Professeurs J. Brocas, R. Colin, J. Reisse et G. Verhaegen (45-0-0-0), partim 12h, 1986-91 (U.L.B.).
- **Maître d’enseignement** pour le cours ATOM005 “*Problèmes théoriques de spectroscopie atomique et moléculaire*” (30-0-0-0) du D.E.A. en Physique Théorique (Module II “Physique des basses énergies”), 1990-99 (U.L.B.)
- **Chargé d’enseignement** pour le cours “*Structures et spectroscopies moléculaires: Rotation et non-rigidité des molécules polyatomiques*” (15-0-0-0) dans le cadre de la 2ème Licence en Sciences Chimiques, CHIM148, 1996-2001. (U.L.B.)
- **Charges d’enseignements en qualité de Professeur ordinaire (2002-)**
  - “*Physique atomique et moléculaire*” (PHYS236 - th. 24h, ex. 12h), 2ème année du grade d’ingénieur civil physicien, Faculté des Sciences Appliquées (2002/03-2006/07).
  - “*Chimie physique moléculaire*” (CHIM089 - th. 60h, TP 150h) (co-titulaires: J. Liévin et M. Herman, cours donné par couple de deux enseignants avec rotation dans les couples chaque année), CHIM 3, Faculté des Sciences (2002/03-2005/06).
  - “*Théorie des groupes de symétrie: applications aux structures atomiques et moléculaires*” (CHIM024 - th. 15h) (co-titulaire: J. Liévin, rotation annuelle des titulaires), CHIM 2, Faculté des Sciences (2002/03-2006/07)
  - “*Rotation et non-rigidité moléculaire*” (CHIM266 - th. 15h), CHIM 4, Faculté des Sciences (2002/03-2006/07).
  - “*Physique atomique et moléculaire*” (PHYS117 - th. 30h), PHYS 3, Faculté des Sciences (2002/03-2005/06).
- **Enseignements D.E.A. en Sciences, U.L.B.** (CHIM4, PHYS4 et IRPHYS-4)
  - “*Problèmes théoriques de spectroscopie atomique et moléculaire*” (ATOM005), 30h, Orientation Physique - *Physique des basses énergies* (2000/01-2006/07).
  - “*Structures et spectroscopies moléculaires: rotation et non-rigidité des molécules*” (CHIM148), 15h, Orientation Chimie - *Chimie Physique* (2000/01-)
  - “*Structures électroniques des atomes: calcul ab initio et spectroscopies*” (CHIM287), 15h, Orientation Chimie - *Interaction photons-matière*, (2000/01-)
- **Participation aux enseignements du “Troisième Cycle en Physique Atomique et Moléculaire” sous l’édige du FNRS**
  - 20-24 janvier 1992, Domaine de Wégimont.
  - 29 avril 1994, Université Libre de Bruxelles.
- **Participation aux enseignements du “Troisième Cycle interuniversitaire en Chimie Physique Moléculaire” sous l’égide du FNRS**
  - “*Approche théorique et expérimentale de la réactivité en chimie*”  
25 mai 1999, U.C.L., Louvain-la-Neuve.
  - “*Approche théorique et expérimentale des spectroscopies optiques*”  
29 mai 2001, U.C.L., Louvain-la-Neuve.

- “*Approche théorique et expérimentale des spectroscopies magnétiques*”  
21-22 mai 2003, U.C.L., Louvain-la-Neuve.
- “*Physico-chimie des systèmes inorganiques et organométalliques. Aspects théoriques et expérimentaux*”  
22 mai 2007, U.C.L., Louvain-la-Neuve.

- **Travaux pratiques, exercices et séminaires**

- TP/séminaires de “Chimie Physique Atomique et Moléculaire” (1ère licence Chimie - CHIM089 - 150h), 1984- , (40-60h/an).
- TP “Structure et Spectroscopie moléculaires” (2ème licence Chimie, Module V - CHIM267 - 75h), 1978- , (5-8h/an).
- “Introduction aux méthodes de calcul ab initio de structures atomiques” (0-15-0-0) - D.E.A. en Chimie, Module C “Réactivité quantique”, CHIM287, 1996-99, (15h/an).
- TP liés au cours “Problèmes théoriques de spectroscopie atomique et moléculaire” (D.E.A. en Physique Théorique - ATOM005 - 75h), 1992-1999, (5-8h/an).

- **Invited lecturer @ von Karman Institute of Fluid Dynamics**

“*Fundamentals of atomic spectroscopy*”, Lecture series “Spectroscopy and Spectroscopic Measurement Techniques for Aerospace Flows”, Rhode-St-Genèse, Belgium, May 13-26, 2014.

### 4.3 Supervision/Committees of PhD theses and Master theses

- **Supervision/Co-supervision**

- Master theses of P. Melaet (1976–77), I. Kleiner (1983-84), E. Cantarella (1985-86), T. Huet (1985-86), N. Vaeck (1985-86), I. Glorieux (1987-88), G. Van Meulebeke (1989-90), D. Courtois (1992-93), G. Verbockhaven (1994-95), A. Borgoo (VUB, 2003-04), P. Mabille (2004-05), T. Carette (2005-06), S. Danneels (2006-07), C. Nazé (2007-08), S. Verdebout (2007-08), L. Filippin (2012-13), D. Liégeois (2013-14), R. Tiani (2013-14), S. Schiffmann (2016-17)
- PhD theses of I. Kleiner (1989), T. Huet (1990), N. Vaeck (1990), F. Vanhorenbeke (1990), G. Van Meulebeke (1994), A. Aboussaïd (1996), A. Yousfi (2001), N. Nemouchi (Algérie, USTBH, 2004), A. Borgoo (cotutelle VUB-ULB, 2009), T. Carette (2010), C. Nazé (2012), S. Verdebout (2012), L. Filippin (2017), S. Schiffmann
- des thèses annexes de J. Breulet (1982), J.-Y. Metz (1985), A.C. Vandaele (1997), S. Van Eck (1999).
- Supervision of international Ph.D. research training: N. Aourir (18/10/13-15/11/13), A. Touat (1-31/10/15), Chunyu Zhang (Fudan U., Shanghai) (01/10/18-28/02/19).
- Supervision of post-doctoral researchers: E. Ottshofski (1/02-30/04/96), G. Gaigalas (1/09-31/12/96), A. Karlson (15/09/95 - 15/03/97), M. Nemouchi (séjours annuels de quelques semaines pour la période 1997-2017), O. Scharf (04/06-12/07), Jiguang Li (01/09/10-31/08/12), Kai Wang (19/06/18-18/06/19), Ran Si (01/01/2020-31/12/2020).

## 5 Publications and principal scientific activities

### 5.1. Publication list

#### 5.1.2. Books published/edited in collaboration

- “*Europhysics Conference Abstracts of the 35th Conference of the European Group for Atomic Spectroscopy*”, Université Libre de Bruxelles, Brussels (Belgium), July 15-18, 2003.  
Editors: H.-P. Garnir (ULg), M. Godefroid (ULB) and P. Quinet (UMH,ULg),  
Europhysics Conference Abstracts Series, **27B** (2003), 242 pages  
ISBN: 2-914771-12-6, Published by the European Physical Society, Series Editor: R.M. Pick,  
Paris, Managing Editor: P. Helfenstrein, Mulhouse.
- “*Proceedings of the 35th Conference of the European Group of Atomic Spectroscopy, Université Libre de Bruxelles, Brussels, Belgium, July 15-18, 2003*”  
Editors: M. Godefroid and N. Vaeck  
Physica Scripta **T112** (2004), 98 pages  
ISBN: 91-89621-18-2

#### 5.1.3. Book Chapters

- “*From field-free atoms to finite molecular chains in very strong magnetic fields.*”  
M.R. Godefroid,  
in “*Atoms and Molecules in Strong External Fields.*”, P. Schmelcher and W. Schweizer (Eds.),  
Plenum Press, New York, (1998), 69-76.
- “*Atomic Density Functions: Atomic Physics Calculations Analyzed with Methods from Quantum Chemistry*”,  
A. Borgoo, M. Godefroid and P. Geerlings,  
in *Advances in the Theory of Quantum Systems in Chemistry and Physics*, Eds. Hoggan et al.,  
Progress in Theoretical Chemistry and Physics, Chapter 9 / Vol. **22**, pp. 139-171 (2012).
- “*Atomic Structure: Variational Wave Functions and Properties*”,  
C. Froese Fischer and M. Godefroid,  
in *Handbook of Atomic, Molecular and Optical Physics*, G.W. Drake (Ed.), Springer Verlag  
Chapter 21 (2020).

#### 5.1.4. Articles in international journals

1. “*A priori calculation of atomic oscillator strengths using correlated transition states.*”  
M. Godefroid, J.-J. Berger and G. Verhaegen,  
J. Phys. B : Atom. Molec. Phys. **9** (1976), 2181–2193.
2. “*Multiconfigurational transition state calculations of atomic oscillator strengths. The resonance transition of beryllium.*”  
M. Godefroid, J.-J. Berger and G. Verhaegen,  
Int. J. of Quantum Chemistry, Quantum Chemistry Symposium **11** (1977), 119–123.



3. “*An adaptation of ACRZ to calculate electric quadrupole oscillator strengths.*”  
M. Godefroid,  
Comput. Phys. Commun. **15** (1978), 275–282.  
“*Erratum notice and adaptation of ACRZ0001 - Note on phase conventions.*”  
M. Godefroid,  
Comput. Phys. Commun. **17** (1979), 427–430; **41** (1986), 195.
4. “*Hypervirial theorem, screening parameters and electric quadrupole oscillator strengths in the sodium sequence.*”  
E. Biémont and M. Godefroid,  
Phys. Scripta **18** (1978), 323–331.
5. “*Outer correlation MCHF wavefunctions and oscillator strengths along the zinc isoelectronic sequence.*”  
E. Biémont and M. Godefroid,  
Phys. Scripta **22** (1980), 231–239.
6. “*A reassessment of the zinc solar abundance.*”  
E. Biémont and M. Godefroid,  
Astron. Astrophys. **84** (1980), 361–363.
7. “*MCHF calculations of electric dipole and quadrupole oscillator strengths along the helium isoelectronic sequence.*”  
M. Godefroid and G. Verhaegen,  
J. Phys. B : Atom. Molec. Phys. **13** (1980), 3081–3098.
8. “*Many-body and relativistic effects in the Be sequence.*”  
C. Froese Fischer, R. Glass and M. Godefroid,  
Bull. Am. Phys. Soc. **26** (1981), 820.
9. “*Lifetime trends for the  $n = 3$  singlet states in the Mg sequence.*”  
C. Froese Fischer and M. Godefroid,  
Nucl. Instr. and Methods **202** (1982), 307–322.
10. “*Short-range interactions involving plunging configurations of the  $n = 3$  singlet complex in the Mg sequence.*”  
C. Froese Fischer and M. Godefroid,  
Phys. Scripta **25** (1982), 394–400.
11. “*Note on the mutual spin-orbit matrix elements.*”  
M. Godefroid,  
J. Phys. B : Atom. Molec. Phys. **15** (1982), 3583–3586.
12. “*MCHF-BP fine structure splittings and transition rates for the ground configuration in the Nitrogen sequence.*”  
M. Godefroid and C. Froese Fischer,  
J. Phys. B : Atom. Molec. Phys. **17** (1984), 681–692.
13. “*Relativistic and correlation effects on the lifetimes of  $3s4p\ ^3P^o_j$  levels in Mg-like Sulphur and Chlorine.*”  
M. Godefroid and C. Froese Fischer,  
Phys. Scripta **31** (1985), 237–245.

14. *“Forbidden transitions in Na- and Mg-like spectra.”*  
M. Godefroid, C.E. Magnusson, P.O. Zetterberg and I. Joëlsson,  
Phys. Scripta **32** (1985), 125–128.
15. *“MCHF+BP results for some forbidden transitions.”*  
C. Froese Fischer and M. Godefroid,  
J. Phys. B : Atom. Molec. Phys. **19** (1986), 137–148.
16. *“Inversion of the fractional parentage matrix.”*  
M. Godefroid, J. Liévin and J.-Y. Metz,  
J. Phys. A : Math. Gen. **20** (1987), 1645–1653.
17. *“Brillouin’s theorem for complex atomic configurations.”*  
M. Godefroid, J. Liévin and J.-Y. Metz,  
J. Phys. B : Atom. Molec. Phys. **20** (1987), 3283–3296.
18. *“Infrared laser Stark spectrum of HNO<sub>3</sub> at 6 μm.”*  
I. Kleiner, M. Godefroid, M. Herman and A.R.W. Mc Kellar,  
J. Opt. Soc. Am. B **4** (1987), 1159–1164.
19. *“High resolution Fourier transform study of the ν<sub>10</sub> fundamental band and the (ν<sub>10</sub> + ν<sub>7</sub>) – ν<sub>7</sub> hot band of trans-glyoxal.”*  
J. Vander Auwera, M. Godefroid, M. Herman, T.R. Huet and J.W.C. Johns,  
Can. J. of Physics. **65** (1987), 1636–1640.
20. *“Non-orthogonal orbitals in MCHF or configuration interaction wave functions.”*  
A. Hibbert, C. Froese Fischer and M. Godefroid,  
Comput. Phys. Commun., **51** (1988), 285–293.
21. *“Multiconfiguration Hartree-Fock calculations for singlet terms in neutral Strontium.”*  
N. Vaeck, M. Godefroid and J.E. Hansen,  
Phys. Rev. A **38** (1988), 2830–2845.
22. *“Laguerre meshes in atomic structure calculations.”*  
M. Godefroid, J. Liévin and P.-H. Heenen,  
J. Phys. B : Atom. Molec. Phys., **22** (1989), 3119–3136.
23. *“The Fundamental Torsion Band in Acetaldehyde.”*  
I. Kleiner, M. Godefroid, M. Herman and A.R.W. McKellar,  
J. Mol. Spectrosc. **142** (1990), 238–253.
24. *“The ν<sub>1</sub> Fundamental Band of trans-HNO<sub>2</sub>.”*  
J.M. Guilmot, M. Carleer, M. Godefroid and M. Herman,  
J. Mol. Spectrosc. **143** (1990), 81–90.
25. *“The  $\tilde{A}$  electronic state of acetylene : geometry and axis-switching effects.”*  
T.R. Huet, M. Godefroid and M. Herman,  
J. Mol. Spectrosc. **144** (1990), 32–44.
26. *“MCHF oscillator strength and lifetime calculations in neutral calcium.”*  
N. Vaeck, M. Godefroid and J.E. Hansen,  
J. Phys. B : Atom. Molec. Phys. **24** (1991), 361–381.

27. “Symmetry adapted formulation of the generalized Brillouin theorem.”  
M. Godefroid, J. Liévin and J.-Y. Metz,  
Int. J. of Quantum Chemistry. **XL** (1991), 243–264.
28. “The Ground Torsional State of Acetaldehyde.”  
I. Kleiner, J.T. Hougen, R.D. Suenram, F.J. Lovas and M. Godefroid,  
J. Mol. Spectrosc. **148** (1991), 38–49.
29. “A program for performing angular integrations for transition operators.”  
C. Froese Fischer, M. Godefroid and A. Hibbert,  
Comput. Phys. Commun. **64** (1991), 486–500.
30. “Programs for computing LS and LSJ transitions from MCHF wave functions.”  
C. Froese Fischer and M. Godefroid,  
Comput. Phys. Commun. **64** (1991), 501–519.
31. “New accurate transition probabilities for astrophysically important spectral lines of neutral nitrogen.”  
A. Hibbert, E. Biémont, M. Godefroid and N. Vaeck,  
Astron. and Astrophys. Suppl. Ser. **88** (1991), 505–524.
32. “Accurate oscillator strengths of astrophysical interest for neutral oxygen.”  
E. Biémont, A. Hibbert, M. Godefroid, N. Vaeck and B.C. Fawcett,  
Ap. J. **375** (1991), 818–822.
33. “Experimental and MCHF isotope shifts of strongly perturbed levels in Ca I and Sr I.”  
A. Aspect, J. Bauche, P. Grangier, M. Godefroid, N. Vaeck and J.E. Hansen,  
J. Phys. B : Atom. Molec. Phys. **24** (1991), 4077–4099.
34. “E1 transitions of astrophysical interest in neutral oxygen.”  
A. Hibbert, E. Biémont, M. Godefroid and N. Vaeck,  
J. Phys. B : Atom. Molec. Phys. **24** (1991), 3943–3958.
35. “Rotational Analysis of the 0 – 0 Band of the  $\tilde{a}^3A_u - \tilde{X}^1A_g$  System of trans-Glyoxal.”  
D.A. Ramsay, M. Vervloet, F. Vanhorenbeke, M. Godefroid and M. Herman,  
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L. Filippin, R. Beerwerth, J. Ekman, S. Fritzsche, M. Godefroid and P. Jönsson,  
Phys. Rev. A **94** (2016) 062508/1-9 [doi:10.1103/PhysRevA.94.062508].
127. “*Advanced multiconfiguration methods for complex atoms: Part I - Energies and wave functions.*” (Topical Review)  
C. Froese Fischer, M. Godefroid, T. Brage, P. Jönsson and G. Gaigalas,  
J. Phys. B: At. Mol. Opt. Phys. **49** (2016) 182004 (35pp)  
(<https://doi.org/10.1088/0953-4075/49/18/182004> ).
128. “*Extended calculations of spectroscopic data: energy levels, lifetimes and transition rates for O-like ions from Cr XVII to Zn XXIII.*”  
K. Wang, P. Jönsson, J. Ekman, G. Gaigalas, M. Godefroid, R. Si, Z.B. Chen, S. Li, C.Y. Chen and J. Yan,  
Astrophys. J., Suppl. Ser., **229** (2017) 37 (17pp) [<https://doi.org/10.3847/1538-4365/aa6847>].
129. “*Multiconfiguration Dirac-Hartree-Fock calculations with spectroscopic accuracy: applications to astrophysics.*”  
P. Jönsson, G. Gaigalas, P. Rynkun, L. Radžiūtė, J. Ekman, S. Gustafsson, H. Hartman, K. Wang, M. Godefroid, C. Froese Fischer, I. Grant, T. Brage and G. del Zanna,  
Atoms, **16** (2017) 5 (24pp) [<https://doi.org/10.3390/atoms5020016>].
130. “*Evolution of nuclear structure in neutron-rich odd-Zn isotopes and isomers.*”  
C. Wraith, X.F. Yang, L. Xie, C. Babcock, J. Bieroń, J. Billowes, M.L. Bissell, K. Blaum, B. Cheal, L. Filippin, R.F. Garcia Ruiz, W. Gins, L.K. Grob, G. Gaigalas, M. Godefroid, C. Gorges, H. Heylen, M. Honma, P. Jönsson, S. Kaufmann, M. Kowalska, J. Krämer, S. Malbrunot-Ettenauer, R. Neugart, G. Neyens, W. Nörtershäuser, F. Nowacki, T. Otsuka, J. Papuga, R. Sánchez, Y. Tsunoda and D.T. Yordanov,  
Physics Letters B **771** (2017) 385 - 391 [<https://doi.org/10.1016/j.physletb.2017.05.085>].

131. “*Multiconfiguration calculations of electronic isotope shift factors in Zn I*”  
L. Filippin, J. Bieroń, G. Gaigalas, M. Godefroid and P. Jönsson,  
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132. “*Comment on “Theoretical confirmation of the Low Experimental 3C/3D f-Value Ratio in Fe XVII”*”  
K. Wang, P. Jönsson, J. Ekman, G. Gaigalas, M. Godefroid, C. Froese Fischer, T. Brage and Chong Yang Chen,  
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133. “*Relativistic semiempirical-core-potential calculations in Ca<sup>+</sup>, Sr<sup>+</sup>, and Ba<sup>+</sup> ions on Lagrange meshes.*”  
L. Filippin, S. Schiffman, J. Dohet-Eraly, D. Baye and M. Godefroid,  
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134. “*Theoretical Hyperfine Structures of excited levels in <sup>19</sup>F I and <sup>17</sup>O I.*”  
N. Aourir, M. Nemouchi, M. Godefroid and P. Jönsson,  
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135. “*Ab initio calculations of hyperfine structures of zinc and evaluation of the nuclear quadrupole moment Q(<sup>67</sup>Zn)*”  
J. Bieroń, L. Filippin, G. Gaigalas, M. Godefroid, P. Jönsson, and P. Pyykkö,  
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136. “*MCDHF Calculations of Isotope Shifts in Neutral Antimony*”  
S. Gamrath, P. Palmeri, P. Quinet, S. Bouazza and M. Godefroid,  
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137. “*Large-scale multiconfiguration Dirac-Hartree-Fock and relativistic configuration interaction calculations of transition data for B-like S XII*”  
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138. “*Benchmarking atomic data from large-scale multiconfiguration Dirac-Hartree-Fock calculations for astrophysics: S-like ions from Cr IX to Cu XIV*”  
K. Wang, C.X. Song, P. Jönsson, G. Del Zanna, S. Schiffmann, M. Godefroid, G. Gaigalas, X.H. Zhao, R. Si, C.Y. Chen and J. Yan,  
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139. “*Relativistic semiempirical core-potential calculations in alkali-like systems using Lagrange meshes.*”  
S. Schiffman, L. Filippin, J. Dohet-Eraly, D. Baye and M. Godefroid,  
Belgian Physical Society Magazine **3** (2018) 14-20 (Featured Article).
140. “*RIS4: A program for relativistic isotope shift calculations.*”  
J. Ekman, P. Jönsson, M. Godefroid, C. Nazé, G. Gaigalas and J. Bieroń,  
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141. “*Electron Correlation in the Lanthanides: 4f<sup>2</sup> spectrum of Ce<sup>2+</sup>.*”  
C. Froese Fischer and M. Godefroid,  
Phys. Rev. A **99** (2019) 032511/1-8 [<https://doi.org/10.1103/PhysRevA.99.032511>].

142. “Nuclear charge radii of  $^{62-80}\text{Zn}$  and their dependence on cross-shell proton excitations.”  
L. Xie, X.F. Yang, C. Wraith, C. Babcock, J. Bieroń, J. Billowes, M.L. Bissell, K. Blaum, B. Cheal, L. Filippin, K.T. Flanagan, R.F. Garcia Ruiz, W. Gins, G. Gaigalas, M. Godefroid, C. Gorges, L.K. Grob, H. Heylen, P. Jönsson, S. Kaufmann, M. Kowalska, J. Krämer, S. Malbrunot-Ettenauer, R. Neugart G. Neyens, W. Nörtershäuser, T. Otsuka J. Papuga, R. Sánchez, Y. Tsunoda and D.T. Yordanov,  
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143. “Coulomb (Velocity) Gauge Recommended in Multiconfiguration Calculations of Transition Data Involving Rydberg Series.”  
A. Papoulia, J. Ekman, G. Gaigalas, M. Godefroid, S. Gustafsson, H. Hartman, W. Li, L. Radžiūtė, P. Rynkun, S. Schiffmann, K. Wang and P. Jönsson,  
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144. “Large-scale multiconfiguration Dirac-Hartree-Fock calculations for astrophysics: Cl-like ions from Cr VIII to Zn XIV”  
K. Wang, P. Jönsson, G. Del Zanna, M. Godefroid, Z.B. Chen, C.Y. Chen and J. Yan,  
Astrophys. J. Suppl. Ser., **246** (2020) 1 (13pp), [<https://doi.org/10.3847/1538-4365/ab5530>].
145. “Benchmarking calculations with spectroscopic accuracy of excitation energies and wavelengths in sulfur-like tungsten.”  
C.Y. Zhang, K. Wang, M. Godefroid, P. Jönsson, R. Si and C.Y. Chen,  
Phys. Rev. A **101** (2020) 032509 /1-11 [<https://doi.org/10.1103/PhysRevA.101.032509>].  
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146. “Large-scale multiconfiguration Dirac-Hartree-Fock calculations for astrophysics:  $n = 4$  levels in P-like ions from Mn XI to Ni XIV.”  
C.X. Song, K. Wang, G. Del Zanna, P. Jönsson, R. Si, M. Godefroid, G. Gaigalas, L. Radžiūtė, P. Rynkun, X.H. Zhao, J. Yan and C.Y. Chen,  
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D.T. Yordanov, L.V. Rodriguez, D.L. Balabanski, J. Bieroń, M.L. Bissell, K. Blaum, B. Cheal, J. Ekman, G. Gaigalas, R.F. Garcia Ruiz, G. Georgiev, W. Gins, M. Godefroid, C. Gorges, Z. Harman, H. Heylen, P. Jönsson, A. Kanellakopoulos, S. Kaufmann, C.H. Keitel, V. Lagaki, S. Lechner, R. Maaß, S. Malbrunot-Ettenauer, W. Nazarewicz, R. Neugart, G. Neyens, W. Nörtershäuser, N.S. Oreshkina, A. Papoulia, P. Pyykkö, P.-G. Reinhard, S. Sailer, R. Sánchez, S. Schiffmann, S. Schmidt, L. Wehner, C. Wraith, L. Xie, Z. Xu and X. Yang,  
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148. “Natural orbitals in multiconfiguration calculations of hyperfine structure parameters.”  
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Phys. Rev. A **101** (2020) 062510 /1-11 [<https://doi.org/10.1103/PhysRevA.101.062510>].  
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S. Gamrath, M. Godefroid, P. Palmeri, P. Quinet and K Wang,  
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S. Schiffmann, L. Filippin, D. Baye and M. Godefroid,  
Comput. Phys. Commun., **256** (2020) 107452 / 1-7 [<https://doi.org/10.1016/j.cpc.2020.107452>]
151. “In-gas-cell laser resonance ionization spectroscopy of  $^{196,197,198}\text{Ir}$ .”  
M. Mukai, Y. Hirayama, Y.X. Watanabe, S. Schiffmann, J. Ekman, M. Godefroid, P. Schury, Y. Kakiguchi, M. Oyaizu, M. Wada, S.C. Jeong, J.Y. Moon, J.H. Park, H. Ishiyama, S. Kimura, H. Ueno, M. Ahmed, A. Ozawa, H. Watanabe, S. Kanaya and H. Miyatake,  
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152. “Electronic isotope shift factors for the  $\text{Ir } 5d^7 6s^2 \ ^4F_{9/2} \rightarrow (\text{odd}, J = 9/2)$  line at 247.587 nm.”  
S. Schiffmann and M. Godefroid,  
J. Quant. Spectrosc. Radiat. Transf., Available online 18 September 2020, 107332.  
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153. “Extended Calculations with Spectroscopic Accuracy: Energy Levels and Radiative Rates for O-like Ions between Ar XI and Cr XVII. ”  
C.X. Song, C.Y. Zhang, K. Wang, R. Si, M. Godefroid, P. Jönsson, D. Wei, X.H. Zhao, J. Yan, J. and C.Y. Chen,  
Atomic Data and Nuclear Data Tables, accepted on August 8, 2020, - available on line since November 7, 2020 [<https://doi.org/10.1016/j.adt.2020.101377>] , (arXiv:2008.02923 [physics.atom-ph])
154. “High-resolution laser spectroscopy on  $^{27-32}\text{Al}$ .”  
H. Heylen, C.S. Devlin, W. Gins, M.L. Bissell, K. Blaum, B. Cheal, L. Filippin, R.F. Garcia Ruiz, M. Godefroid, C. Gorges, J.D. Holt, A. Kannelakopoulos, S. Kaufmann, Á. Koszorús, K. König, J. Krämer, S. Malbrunot-Ettenauer, T. Miyagi, R. Neugart, G. Neyens, W. Nörtersäuser, R. Sánchez, F. Sommer, L.V. Rodríguez, L. Xie, Z.Y. Xu, X.F. Yang and D.T. Yordanov,  
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(arXiv:2010.06918 [nucl-ex]) <https://arxiv.org/abs/2010.06918>.
155. “Ab initio electronic factors of the A and B hyperfine structure constants for the  $5s^2 5p 6s \ ^1,^3P_1^o$  states in Sn I.”  
A. Papoulia, S. Schiffmann, J. Bieroń, G. Gaigalas, M. Godefroid, Z. Harman, P. Jönsson, N.S. Oreshkina, P. Pyykkö and I.I. Tupitsyn  
Phys. Rev. A , submitted on July 23, 2020. (arXiv:2007.11419 [physics.atom-ph])
156. “Benchmarking calculations with spectroscopic accuracy of level energies and wavelengths in W LXII - W LVII tungsten ions.”  
C.Y. Zhang, K. Wang, R. Si, M. Godefroid, P. Jönsson, J. Xiao, M.F. Gu and C.Y. Chen,  
Physical Review A, submitted on December 2, 2020.

157. *“S stars and s-process in the Gaia era. II. Constraining the luminosity of the third dredge-up with Tc-rich S stars.”*  
S. Shetye, S. Van Eck, A. Jorissen, S. Goriely, L. Siess, H. Van Winckel, M. Godefroid and G. Wallerstein,  
Astronomy & Astrophysics, in preparation.
158. *“Relativistic Multiconfiguration Electron Density Functions and Natural Orbitals from GRASP2018.”*  
S. Schiffmann, J. Li, J. Ekman, G. Gaigalas, M. Godefroid and P. Jönsson,  
Comput. Phys. Commun., in preparation.
159. *“New Version of HFS92.”*  
J. Li, J. Ekman, G. Gaigalas, J. Bieroń, P. Jönsson, M. Godefroid and C. Froese Fischer,  
Comput. Phys. Commun., in preparation.
160. *“Revisiting mass and field shift electronic factors of the 4s-4p doublet resonance transitions in Ca II.”*  
J. Li, M. Godefroid, P. Jönsson, G. Gaigalas and J. Wang,  
Phys. Rev. A, in preparation.
161. *“Weak Correlation and Strong Relativistic Effects on the Hyperfine Interaction in Fluorine.”*  
F. Zahra Boualili, M. Nemouchi and M. Godefroid,  
Phys. Rev. A, in preparation.

### 5.1.7. Proceedings publications

- “*Isotope shift MCHF calculations in strontium.*”  
M. Godefroid, N. Vaeck and J.E. Hansen,  
Proceedings of the NATO-ARW “Numerical Determination of the Electronic Structure of Atoms, Diatomic and Polyatomic Molecules.”, Versailles (France), April 17-22, 1988, M. De-franceschi and J. Delhalle (eds.), Kluwer Academic Publishers (1989), 269–274
- “*Accurate  $f$ -values for  $N I$  and astrophysical implications.*”  
E. Biémont, C. Froese Fischer, M. Godefroid, N. Vaeck and A. Hibbert,  
Proceedings of the Third International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysics and Fusion, Amsterdam, August 28–31, 1989, J.E. Hansen (eds.), North Holland Publishing, Amsterdam, (1990), 59–60.
- “*Accurate oscillator strengths for neutral carbon and astrophysical implications.*”  
E. Biémont, A. Hibbert, M. Godefroid and N. Vaeck,  
Proceedings of the 4th International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas, Gaithersburg (U.S.A.), September 14-17, 1992, J. Sugar and D. Leckrone (eds), NIST Special Publication **850** (1993) 26-28,
- “*Accurate calculations of isotope shifts in light atoms.*”  
P. Jönsson, C. Froese Fischer, M. Godefroid and J. Carlsson,  
Proceedings of the 5th Colloquium on Atomic Spectra and Oscillator Strengths for Astro-physical and Laboratory Plasmas, Meudon, August 28-31, 1995, W.-U. L. Tchang-Brillet, J.-F. Wyart and C.J. Zeippen (eds.), Publications de l’Observatoire de Paris, Meudon, (1996), 58-59.
- “*Allowed and forbidden transitions in the Be isoelectronic sequence.*”  
J. Fleming, N. Vaeck, K.L. Bell, M. Godefroid and A. Hibbert,  
Proceedings of the 5th Colloquium on Atomic Spectra and Oscillator Strengths for Astro-physical and Laboratory Plasmas, Meudon, August 28-31, 1995, W.-U. L. Tchang-Brillet, J.-F. Wyart and C.J. Zeippen (eds.), Publications de l’Observatoire de Paris, Meudon, (1996), 72-73.
- “*Systematic studies of the  $2s^2\ ^1S_0 - 2s3p\ ^1,^3P_1^o$  transitions in the Be-like sequence.*”  
C. Froese Fischer, M. Godefroid and J. Olsen,  
Proceedings of the 5th Colloquium on Atomic Spectra and Oscillator Strengths for Astro-physical and Laboratory Plasmas, Meudon, August 28-31, 1995, W.-U. L. Tchang-Brillet, J.-F. Wyart and C.J. Zeippen (eds.), Publications de l’Observatoire de Paris, Meudon, (1996), 74-75.
- “*Hyperfine quenching of  $1s^22s2p\ ^3P_0^o$  in C III and N IV and their astrophysical interest.*”  
A. Aboussaïd, T. Brage, C. Froese Fischer, P.G. Judge, M. Godefroid and P. Jönsson,  
Proceedings of the 5th Colloquium on Atomic Spectra and Oscillator Strengths for Astro-physical and Laboratory Plasmas, Meudon, August 28-31, 1995, W.-U. L. Tchang-Brillet, J.-F. Wyart and C.J. Zeippen (eds.), Publications de l’Observatoire de Paris, Meudon, (1996), 84-85.



- “*On the tensorial form of the relativistic magnetic dipole transition operator.*”  
A. Aboussaïd, M. Godefroid and L. Smentek-Mielczarek,  
Proceedings of the 5th Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas, Meudon, August 28-31, 1995, W.-U. L. Tchang-Brillet, J.-F. Wyart and C.J. Zeippen (eds.), Publications de l’Observatoire de Paris, Meudon, (1996), 93.
- “*Multiconfiguration atomic properties for light atoms.*”  
C. Froese Fischer, P. Jönsson, M. Godefroid and T. Brage,  
Proceedings of the GHRS Science Symposium, Pacific Conference Series. Astronomical Society. Sept. 11-12, 1996.
- “*Oscillator strengths for the weak  $3s^2S - 4p^2P^o$  transition in Mg II*”  
J. Fleming, M. Godefroid, A. Hibbert, K.L. Bell, N. Vaeck and C. Froese Fischer,  
Proceedings of the 6th International Colloquium on Atomic Spectra and Oscillator Strengths (ASOS6), University of Victoria, Victoria, British Columbia (Canada), August 9-13, 1998, J. Tatum (eds), (1999) 55-58.
- “*MCHF and MCHF+BP atomic properties of lithium-like ions*”  
M. Godefroid, C. Froese Fischer, G. Gaigalas, M. Saporov and P. Jönsson,  
Proceedings of the 6th International Colloquium on Atomic Spectra and Oscillator Strengths (ASOS6), University of Victoria, Victoria, British Columbia (Canada), August 9-13, 1998, J. Tatum (eds), (1999) 70-73.
- “*MCHF and MCDF calculations of two-electron-one-photon transitions from hollow atoms*”  
N. Vaeck, S. Fritzsche and M. Godefroid,  
Proceedings of the 6th International Colloquium on Atomic Spectra and Oscillator Strengths (ASOS6), University of Victoria, Victoria, British Columbia (Canada), August 9-13, 1998, J. Tatum (eds), (1999) 178.
- “*Preface of the Proceedings of the 35th Conference of the European Group of Atomic Spectroscopy.*”  
N. Vaeck and M. Godefroid,  
Physica Scripta **T112** (2004) 4.
- “*Interaction of Variational Localised Correlation Functions for Atomic Properties of Be I*”  
S. Verdebout, P. Rynkun and P. Jönsson, G Gaigalas, C.Fischer and M. Godefroid,  
Proceedings of the XXVII International Conference on Photonic, Electronic and Atomic Collisions (ICPEAC 2011), Belfast, Northern Ireland, UK, July 27 - August 2, 2011.  
Journal of Physics: Conference Series **388** (2012) 152006 [doi:10.1088/1742-6596/388/15/152006]
- “*Ab initio multi-configuration Dirac-Hartree-Fock calculation on the lifetimes of levels in  $2p^53s$  configuration of neutral neon*”  
J.G. Li, S. Verdebout and M. Godefroid,  
Proceedings of the XXVII International Conference on Photonic, Electronic and Atomic Collisions (ICPEAC 2011),  
Journal of Physics: Conference Series **388** (2012) 152007 [doi:10.1088/1742-6596/388/15/152007].

- “*Relativistic calculations on isotope shifts in barium*”  
C. Nazé, J. Li and M. Godefroid,  
Proceedings of the XXVII International Conference on Photonic, Electronic and Atomic Collisions (ICPEAC 2011), Belfast, Northern Ireland, UK, July 27 - August 2, 2011.  
Journal of Physics: Conference Series **388** (2012) 152008 [doi:10.1088/1742-6596/388/15/152008]
- “*Theoretical study of hyperfine structure constants of Ga isotopes*”  
Q.M. Wang, J.G. Li, S. Fritzsche, M. Godefroid, Z.W. Chang and C.Z. Dong  
Proceedings of the XXVII International Conference on Photonic, Electronic and Atomic Collisions (ICPEAC 2011),  
Journal of Physics: Conference Series **388** (2012) 152009 [doi:10.1088/1742-6596/388/15/152009].
- “*Relativistic calculations of  $1s^2 2s 2p$  levels splitting in Be-like Kr*”  
J. M. Sampaio, F. Parente, C. Nazé, M. Godefroid, P. Indelicato and J.P. Marques,  
Special issue of the Physica Scripta (<http://iopscience.iop.org/1402-4896/>),  
Proceedings of the 16th International Conference Physics of Highly Charged Ions (HCI Conference, 2012), Heidelberg, Germany, September 2-6, 2012.  
Physica Scripta **T156** (2013) 014015 (2pp)[doi:10.1088/0031-8949/2013/T156/014015].
- “*Fully Relativistic Atomic Structure Calculations with Applications to Nuclear Physics and Astrophysics*”  
P. Jönsson; G. Gaigalas, J. Ekman, J. Bieroń, M. Godefroid, C. Froese Fischer and I. Grant,  
Proceedings of the 3rd International Conference on Matter and Radiation at Extremes (ICMRE, 2018)  
Qingdao (China), May 6-11, 2018 (IS: Per Jönsson), submitted to Journal of Matter and Radiation at the Extremes (AIP Publishing) in February 2019.
- + trois publications dans revues **avec comité de lecture** (cf. n° 58, 68 et 107 du §5.1.4) relatives aux conférences **invitées** (5th ASOS (1995), 29th EGAS (1997), 8th ICAMDATA (2012)).

#### 5.1.8. Internal and expert’s reports, . . .

IRSIA, FRIA, FNRS, NATO, CGRI, EC, ARC, etc . . .

## 5.2. Scientific activities

### 5.2.1. Short stays abroad

(not reported in 3.2)

- Whitmore Laboratory, Pennsylvania State University, University Park, PA 16802, U.S.A., August 1–September 15, 1979.  
Professor C. Froese Fischer
- Computer Science Department, Vanderbilt University, Nashville, TN 37235, U.S.A., January 1–December 31, 1981.  
Professor C. Froese Fischer
- Fysiska Institutionen, Lunds Universitet, Lund, Sweden, February 14–19, 1983.  
Professor I. Martinson
- Computer Science Department, Vanderbilt University, Nashville, TN 37235, U.S.A., October 1–14, 1983.  
Professor C. Froese Fischer
- Zeeman Laboratorium der Universiteit van Amsterdam, Amsterdam, The Netherlands, May 1–31, 1984.  
Professor J.E. Hansen
- Zeeman Laboratorium der Universiteit van Amsterdam, Amsterdam, The Netherlands, April 22–May 15, 1985.  
Professor J.E. Hansen
- Computer Science Department, Vanderbilt University, Nashville, TN 37235, U.S.A., July 19–August 16, 1987.  
Professor C. Froese Fischer
- Fysiska Institutionen, Lunds Universitet, Lund, Sweden, May 24–25, 1988.  
Professor I. Martinson
- Physics Department, The Johns Hopkins University, Baltimore, Maryland, U.S.A., August 3–25, 1990.  
Professor B.R. Judd
- Department of Physics, Lund Institute of Technology, Lund, Sweden, March 1–15, 1993.  
Professor S. Svanberg
- Department of Physics, Lund Institute of Technology, Lund, Sweden, March 13–20, 1994.  
Professor S. Svanberg, Drs J. Olsen and P. Jönsson
- Computer Science Department, Vanderbilt University, Nashville, TN 37235, U.S.A., November 6–20, 1994.  
Professor C. Froese Fischer
- Theoretical Chemistry, Chemical Center, University of Lund, Lund, Sweden, January 17–22, 1995.  
Drs J. Olsen and P.Å. Malmqvist

- Department of Applied Mathematics and Theoretical Physics, The Queen's University of Belfast, Belfast, Northern Ireland, April 23 - May 6, 1995.  
Professor A. Hibbert
- Theoretical Chemistry, Chemical Center, University of Lund, Lund, Sweden, June 5-15, 1996.  
Drs J. Olsen, P. Jönsson and C. Froese Fischer
- Department of Applied Mathematics and Theoretical Physics, The Queen's University of Belfast, Belfast, Northern Ireland, October 5-22, 1996.  
Professors A. Hibbert and K.L. Bell
- Physics Department, The Johns Hopkins University, Baltimore, Maryland, U.S.A., November 2-25, 1997.  
Professor B.R. Judd
- Department of Applied Mathematics and Theoretical Physics, The Queen's University of Belfast, Belfast, Northern Ireland, April 26 - May 9, 1998.  
Professors A. Hibbert and K.L. Bell
- Department of Applied Mathematics and Theoretical Physics, The Queen's University of Belfast, Belfast, Northern Ireland, January 10-23, 1999.  
Professors A. Hibbert and K.L. Bell
- Laboratoire de Photophysique Moléculaire, Université de Paris-Sud, Orsay, 13-27 février 2000.  
Prof. J.-M. Flaud et Dr. I. Kleiner
- Laboratoire de Photophysique Moléculaire, Université de Paris-Sud, Orsay, 16 avril - 2 mai 2000.  
Prof. J.-M. Flaud et Dr. I. Kleiner
- Instytut Fizyki im. Mariana Smoluchowskiego, Uniwersytet Jagielloński, Kraków, Poland, November 1-7, 2001.  
Prof. J. Bieroń
- Laboratoire Kastler Brossel Ecole Normale Supérieure et Université Pierre et Marie Curie, France, 3 décembre 2004, 12 mai 2005, 11-12 octobre 2005, 18 mai 2006, 11-12 janvier 2007.  
Prof. P. Indelicato
- Departamento de Física, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Lisboa, Portugal, August 12-18, 2007.  
Prof. J.P. Santos
- Malmö University, Malmö, Sweden, January 22-29, 2008.  
Prof. P. Jönsson
- Computational Quantum Physics, Malmö Högskola, Malmö, Sweden, January 7-16, 2009.  
Prof. P. Jönsson
- Vilnius Pedagogical University, Vilnius, Lithuania, September 17-26, 2009.  
Prof. G. Gaigalas
- Vilnius Pedagogical University, Vilnius, Lithuania, May 21-25, 2012.  
Prof. G. Gaigalas

- 1st Computational Atomic Structure (CompAS) meeting, Mölle, Sweden, July 6-9, 2012.  
Profs. T. Brage and P. Jönsson
- Malmö University, Malmö, Sweden, December 2-9, 2012.  
Prof. P. Jönsson
- 2nd Computational Atomic Structure (CompAS) meeting, Ystad, Sweden, August 10-12, 2013.  
Profs. T. Brage and P. Jönsson
- Malmö University (Malmö) and Lund University (Lund), Sweden, February 10-16, 2014.  
Profs. P. Jönsson and T. Brage
- Laboratoire de Chimie Physique - Matière et Rayonnement (LCPMR), March 25-26, 2014.  
Prof. M.-C. Lépy (LNHB) and A. Dubois (LCPMR)
- 3rd Computational Atomic Structure (CompAS) meeting, Malmö, Sweden, October 15-17, 2015.  
Profs. T. Brage and P. Jönsson
- 4th Computational Atomic Structure (CompAS) meeting, Malmö and Lund, Sweden, June 1-4, 2016.  
Profs. P. Jönsson and T. Brage
- Institute of Applied Physics and Computational Mathematics (IAPCM), Beijing, China, October 29 - November 6, 2016.  
Prof. Jianguo Wang and Dr. Jiguang Li
- 5th Computational Atomic Structure (CompAS) meeting, Malmö and Lund, Sweden, August 18-22, 2017.  
Profs. T. Brage and P. Jönsson
- Shanghai EBIT Lab, Institute of Modern Physics, Fudan University, Shanghai, P.R. China, October 24-29, 2017.  
Profs. R. Hutton and T. Brage
- 6th Computational Atomic Structure (CompAS) meeting, Malmö and Lund, Sweden, June 14-18, 2018.  
Profs. T. Brage and P. Jönsson

### 5.2.2. Contributions to international conferences

(communications écrites ou orales non-reprises en 5.1.7.)<sup>1</sup>

- *“Calculation of atomic oscillator strengths using correlated transition states. The resonance transition of beryllium.”*  
M. Godefroid, J.-J. Berger and G. Verhaegen,  
International Symposium on Atomic, Molecular, Solid State Theory, Collision Phenomena and Computational Methods, Sanibel Island, Florida, January 10–22, 1977.

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<sup>1</sup>Les noms soulignés correspondent aux chercheurs qui ont effectivement présenté les communications. Les abstracts de ces communications ont été publiés dans les “abstract books” des conférences.

- “*Calcul de forces d’oscillateur atomiques par optimisation d’un état de transition.*”  
M. Godefroid, J.-J. Berger and G. Verhaegen,  
Réunion du groupe de contact FNRS “Etude des Fonctions d’Onde Atomiques et Moléculaires”,  
Université de Liège, November 18, 1975.
- “*Calcul a priori de forces d’oscillateur atomiques par l’utilisation d’états de transition corrélés.*”  
M. Godefroid, J.-J. Berger and G. Verhaegen,  
Réunion Scientifique Générale, Société Belge de Physique (S.B.P.), Vrije Universiteit Brussel,  
June 9–10, 1977.
- “*Etude de la transition de résonance du béryllium par l’utilisation d’hamiltoniens de transition.*”  
M. Godefroid, J.-J. Berger and G. Verhaegen,  
VIIème Colloque International des Chimistes Théoriciens d’Expression Latine, Wépion, August 24–28, 1976.
- “*On the use of intermediate Hamiltonians in Quantum Chemistry.*”  
D. Gervy, M. Godefroid, J. Liévin and G. Verhaegen,  
Groningen (The Netherlands), February 1978.
- “*Hypervirial relations and electric quadrupole oscillator strengths in sodium sequence.*”  
E. Biémont and M. Godefroid,  
Réunion Scientifique Générale, Société Belge de Physique (S.B.P.), Faculté Universitaire N.D.  
de la Paix, Namur, June 1–2, 1978.
- “*Hypervirial relations and electric quadrupole oscillator strengths in sodium sequence.*”  
E. Biémont and M. Godefroid,  
Sixth International Conference on Atomic Physics, Riga (U.S.S.R.), August 17–18, 1978.
- “*Calcul de forces d’oscillateur dipolaires et quadripolaires électriques dans la série isoélectronique de l’hélium.*”  
M. Godefroid and G. Verhaegen,  
Réunion Scientifique Générale, Société Belge de Physique (S.B.P.), Limburgs Universitair  
Centrum, 3610 Dikkenbeek, June 7–8, 1979.
- “*MCHF calculations of electric dipole and quadrupole oscillator strengths along the helium isoelectronic sequence.*”  
M. Godefroid and G. Verhaegen,  
Symposium on Atomic Spectroscopy, Tucson, Arizona (U.S.A.), September 10–14, 1979.
- “*MCHF calculations of wavefunctions and oscillator strengths along the zinc isoelectronic sequence.*”  
E. Biémont and M. Godefroid,  
Symposium on Atomic Spectroscopy, Tucson, Arizona (U.S.A.), September 10–14, 1979.
- “*Calculs MCHF de forces d’oscillateur dipolaires et quadripolaires électriques dans la série isoélectronique de l’hélium.*”  
M. Godefroid and G. Verhaegen,  
Xème Colloque International des Chimistes Théoriciens d’Expression Latine, Genève (Suisse),  
September 25–27, 1979.

- “*Calculs de probabilités de transition par la méthode Hartree-Fock multi-configurationnelle le long de la séquence du zinc.*”  
E. Biémont and M. Godefroid,  
Réunion du groupe de contact FNRS “Astronomie et Astrophysique”, Université Libre de Bruxelles, December 14, 1979.
- “*Many-body and relativistic effects in the beryllium sequence.*”  
C. Froese Fischer, R. Glass and M. Godefroid,  
Third Topical Conference of the American Physical Society Atomic Processes in High Temperature Plasmas, Louisiana State University, Baton Rouge (U.S.A.), February 25–27, 1981.
- “*Lifetime trends for the  $n = 3$  singlet levels of the magnesium sequence.*”  
C. Froese Fischer and M. Godefroid,  
Sixth International Conference Fast Ion Beam Spectroscopy, University Laval, Québec (Canada), August 17–20, 1981.
- “*A new program package for atomic structure calculations.*”  
C. Froese Fischer, R. Glass, M. Godefroid and A. Hibbert,  
Réunion Scientifique Générale, Société Belge de Physique (S.B.P.), Université de l’Etat à Mons, June 3–4, 1982.
- “*Electric quadrupole transitions in the magnesium sequence.*”  
M. Godefroid,  
14th European Group for Atomic Spectroscopy (EGAS), Université de Liège, July 27–30, 1982.
- “*Forbidden transitions in the Nitrogen sequence.*”  
M. Godefroid,  
8th International Conference on Atomic Physics (ICAP), Göteborg (Sweden), August 2–6, 1982.
- “*MCHF-BP fine-structure splittings and transition probabilities in the ground configuration of nitrogen sequence.*”  
M. Godefroid and C. Froese Fischer,  
Réunion Scientifique Générale, Société Belge de Physique (S.B.P.), Rijksuniversiteit Gent, June 2–6, 1983.
- “*A MCHF-BP study of the  $J$ -dependence of  $3s4p\ ^3P_J^o$  lifetimes in Mg-like sulphur and chlorine.*”  
M. Godefroid  
Symposium on Atomic Spectroscopy SAS–83, Lawrence Berkeley Laboratory, University of California, Berkeley, California (U.S.A.), September 12–16, 1983.
- “*Calculations of forbidden transition probabilities in atoms.*”  
M. Godefroid,  
Colloque Scientifique 1984 relatif au Projet d’Action de Recherche Concertée Interuniversitaire : “Recherche en Physique Atomique et Moléculaire”, Louvain-la-Neuve, Université Catholique de Louvain, February 2, 1984.

- “*Etude de la dépendance en  $J$  des temps de vie de niveaux atomiques par l’approche MCHF-BP.*”  
M. Godefroid and C. Froese Fischer,  
Réunion du groupe de contact FNRS “Etude des Fonctions d’Onde Atomiques et Moléculaires”,  
Université Libre de Bruxelles, December 10, 1984.
- “*High resolution laser Stark spectrum of  $HNO_3$ .*”  
M. Godefroid, M. Herman, I. Kleiner and A.R.W. Mc Kellar,  
Second European Conference on Atomic and Molecular Physics, Free University of Amsterdam,  
The Netherlands, April 15–19, 1985.
- “*The Brillouin theorem in molecular symmetry groups.*”  
J. Liévin, J.-Y. Metz and M. Godefroid,  
5th International Congress on Quantum Chemistry, Université de Montréal, Québec, Canada,  
August 18–24, 1985.
- “*Perturbations in the  $5snf\ ^1F^o$  Rydberg series in Sr I.*”  
M. Godefroid and J.E. Hansen,  
Second European Conference on Atomic and Molecular Physics, Free University of Amsterdam,  
The Netherlands, April 15–19, 1985.
- “*Observation of optogalvanic signals with a CO laser.*”  
M. Van Roozendael, M. Godefroid, M. Herman and G.W. Hills,  
9th Colloquium on High Resolution Molecular Spectroscopy, Riccione, Italy, September 16–20,  
1985.
- “*High resolution laser Stark spectroscopy of  $HNO_3$  in the  $6\ \mu m$  region.*”  
M. Godefroid, M. Herman and I. Kleiner,  
9th Colloquium on High Resolution Molecular Spectroscopy, Riccione, Italy, September 16–20,  
1985.
- “*The  $\nu_{10}$  band of  $C_2H_2O_2$ .*”  
J. Vander Auwera, M. Godefroid and M. Herman,  
9th Colloquium on High Resolution Molecular Spectroscopy, Riccione, Italy, September 16–20,  
1985.
- “*Laser spectroscopy : from quantum effects to chemical perturbations.*”  
M. Carleer, R. Colin, M. Godefroid, M. Herman, T. Huet, I. Kleiner, J. Vander Auwera and  
M. Van Roozendael,  
Réunion du groupe de contact “High resolution molecular spectroscopy”, Université Libre de  
Bruxelles, February 7, 1986.
- “*Spectroscopie à haute résolution et systèmes chimiques.*”  
M. Carleer, R. Colin, M. Godefroid, M. Herman, T. Huet, I. Kleiner, J. Vander Auwera and  
M. Van Roozendael,  
Réunion annuelle de la Société Chimique de Belgique, Bruxelles, April 17, 1986.
- “*Adaptation à la symétrie atomique et moléculaire du théorème de Brillouin généralisé.*”  
J. Liévin, J.-Y. Metz and M. Godefroid,  
XVI Congrès des Chimistes Théoriciens d’Expression Latine, Lyon, July 7–11, 1986.



- “*Multiconfiguration Hartree-Fock calculations in Sr I.*”  
M. Godefroid, J.E. Hansen and N. Vaeck,  
18th European Group for Atomic Spectroscopy (EGAS), Marburg (W.Germany), July 8–11, 1986.
- “*Brillouin’s theorem for complex atomic configurations.*”  
M. Godefroid, J. Liévin and J.-Y. Metz,  
18th European Group for Atomic Spectroscopy (EGAS), Marburg (W.Germany), July 8–11, 1986.
- “*Ab initio study of perturbations in Rydberg series of neutral strontium.*”  
M. Godefroid, N. Vaeck and J.E. Hansen,  
Réunion du groupe de contact FNRS “Etude des Fonctions d’Onde Atomiques et Moléculaires”,  
FNNDP, Namur, September 8, 1986.
- “*The Brillouin’s theorem in molecular symmetry groups.*”  
M. Godefroid, J. Liévin and J.-Y. Metz,  
Réunion du groupe de contact FNRS “Etude des Fonctions d’Onde Atomiques et Moléculaires”,  
FNNDP, Namur, September 8, 1986.
- “*MCHF calculations in the singlet system of neutral strontium.*”  
M. Godefroid, J.E. Hansen and N. Vaeck,  
Symposium on Atomic Spectroscopy and Highly-Ionized Atoms, Lisle, Illinois (U.S.A.), Au-  
gust 16–21, 1987.
- “*Laguerre mesh calculations in two-electron systems.*”  
M. Godefroid, P.-H. Heenen and J. Liévin,  
Symposium on Atomic Spectroscopy and Highly-Ionized Atoms, Lisle, Illinois (U.S.A.), Au-  
gust 16–21, 1987.
- “*High resolution spectroscopy of light organic molecules in the gaz phase.*”  
M. Carleer, R. Colin, M. Godefroid, M. Herman, T. Huet, I. Kleiner, C. Lombard, P. Miller,  
J. Vander Auwera and M. Van Roozendael,  
Société Royale de Chimie, Bruxelles, May 21, 1987.
- “*High resolution investigation of CH<sub>3</sub>CHO in the infrared range.*”  
I. Kleiner, M. Godefroid, M. Herman, M.D. Marshall, J.W.C. Johns and A.R.W. Mc Kellar,  
10th Colloquium on High Resolution Molecular Spectroscopy, Dijon (France), September 14–  
18, 1987.
- “*CO laser Stark spectroscopy of HNO<sub>3</sub> in the 6 μm region.*”  
I. Kleiner, M. Godefroid, M. Herman and A.R.W. Mc Kellar,  
10th Colloquium on High Resolution Molecular Spectroscopy, Dijon (France), September 14–  
18, 1987.
- “*Multiconfiguration Hartree-Fock calculations in neutral strontium.*”  
M. Godefroid, J.E. Hansen and N. Vaeck,  
Rencontre entre Physiciens Atomistes et Nucléistes, U.L.B., September 25, 1987.
- “*Laguerre mesh calculations in two-electron systems.*”  
M. Godefroid, P.-H. Heenen and J. Liévin,  
Rencontre entre Physiciens Atomistes et Nucléistes, U.L.B., September 25, 1987.

- “*High resolution investigation of CH<sub>3</sub>CHO in the infrared.*”  
I. Kleiner, M. Godefroid, M. Herman, M.D. Marshall, J.W.C. Johns and A.R.W. Mc Kellar,  
Réunion du groupe de contact FNRS “High Resolution Molecular Spectroscopy”, Université  
de Liège, March 18, 1988.
- “*Lifetime and isotope shift MCHF calculations in strontium.*”  
M. Godefroid, N. Vaeck and J.E. Hansen,  
NATO Advanced Research Workshop on “Numerical Determination of the Electronic Structure  
of Atoms, Diatomic and Polyatomic Molecules”, Versailles (France), April 18–22, 1988.
- “*High resolution investigation of CH<sub>3</sub>CHO in the infrared.*”  
I. Kleiner, M. Godefroid, M. Herman, M.D. Marshall, J.W.C. Johns and A.R.W. Mc Kellar,  
Molecular Spectroscopy Symposium Honoring  
E. Bright Wilson, Columbus, Ohio (U.S.A.), June 13–17, 1988.
- “*MCHF isotope shifts of strongly perturbed levels in Ca I and Sr I.*”  
M. Godefroid, N. Vaeck and J.E. Hansen,  
20th European Group for Atomic Spectroscopy (EGAS), Graz (Austria), July 12–15, 1988.
- “*Theoretical lifetimes of the metastable levels <sup>2</sup>D<sub>3/2,5/2</sub> in Ca II, Sr II and Ba II.*”  
I. Glorieux, M. Godefroid and N. Vaeck,  
20th European Group for Atomic Spectroscopy (EGAS), Graz (Austria), July 12–15, 1988.
- “*Symmetry breakdown in polyatomic molecules.*”  
M. Godefroid, J.–M. Guilmot, T.R. Huet, I. Kleiner, J. Vander Auwera, F. Vanhorenbeke,  
M. Van Roozendael and M. Herman,  
Research Conference on Molecular Electronic Spectroscopy, Ile d’Oléron (France), September  
19–23, 1988.
- “*Infrared spectroscopy of atmospheric species.*”  
M. Godefroid, J.–M. Guilmot, M. Herman, T.R. Huet, Y. Kabbadj, I. Kleiner, J. Vander  
Auwera, F. Vanhorenbeke and M. Van Roozendael,  
Réunion du groupe de contact FNRS “Physique Atmosphérique et Aéronomie”, Université de  
Liège, February 10, 1989.
- “*Résolution numérique de l’équation de Schrödinger par discrétisation. Application aux atomes  
biélectroniques et perspectives moléculaires.*”  
M. Godefroid, P.–H. Heenen and J. Liévin,  
Séminaire de Chimie Théorique, Gripp (France), February 27 – March 3, 1989.
- “*Core–valence correlation in Ca II.*”  
I. Glorieux, M. Godefroid and N. Vaeck,  
Réunion Scientifique Générale, Société Belge de Physique (S.B.P.), Vrije Universiteit Brussel,  
June 1–2, 1989.
- “*Accurate gf–values for N I and astrophysical implications.*”  
E. Biémont, C. Froese Fischer, M. Godefroid, N. Vaeck and A. Hibbert,  
Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysics and Fusion, Ams-  
terdam August 28–31, 1989.

- “Core–valence correlation on oscillator strengths and isotope shifts in Ca II”.  
M. Godefroid and N. Vaeck,  
Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysics and Fusion, Amsterdam August 28–31, 1989.
- “The fundamental torsion band in acetaldehyde”.  
I. Kleiner, M. Godefroid, M. Herman and A.R.W. McKellar,  
Eleventh Colloquium on High Resolution Molecular Spectroscopy, Giessen, September 18–22, 1989.
- “The  $\tilde{a}^3A_u$  electronic state in trans-glyoxal.”  
F. Vanhorenbeke, M. Godefroid, M. Herman, D.A. Ramsay and M. Vervloet,  
Eleventh Colloquium on High Resolution Molecular Spectroscopy, Giessen, September 18–22, 1989.
- “Accurate  $f$  values for N I and astrophysical implications.”  
M. Godefroid, N. Vaeck, E. Biémont, C. Froese Fischer and A. Hibbert,  
Réunion du groupe de contact du FNRS “Atoms, Molecules and Radiation”, Université Libre de Bruxelles, March 16, 1990.
- “The  $\tilde{a}^3A_u - \tilde{X}^1A_g$  transition of trans-glyoxal.”  
F. Vanhorenbeke, M. Godefroid, M. Herman, and M. Vervloet,  
Réunion du groupe de contact du FNRS “High Resolution Molecular Spectroscopy”, Facultés Universitaires Notre Dame de la Paix, Namur, May 10, 1990.
- “The torsion in acetaldehyde.”  
I. Kleiner, M. Godefroid, M. Herman, and A.R.W. McKellar,  
Réunion du groupe de contact du FNRS “High Resolution Molecular Spectroscopy”, Facultés Universitaires Notre Dame de la Paix, Namur, May 10, 1990.
- “The fundamental torsion band in acetaldehyde”.  
I. Kleiner, M. Godefroid, M. Herman and A.R.W. McKellar,  
45th Symposium on Molecular Spectroscopy, Columbus, U.S.A., June 11–15, 1990.
- “Accurate oscillator strengths of astrophysical interest for neutral Oxygen.”  
A. Hibbert, E. Biémont, M. Godefroid and N. Vaeck,  
22th European Group for Atomic Spectroscopy (EGAS), Uppsala (Sweden), July 10–12, 1990.
- “Comparison between model potential and MCHF approaches in Ca II.”  
C. Froese Fischer, M. Godefroid and N. Vaeck,  
22th European Group for Atomic Spectroscopy (EGAS), Uppsala (Sweden), July 10–12, 1990.
- “Core polarization against explicit correlation in alkali-like atoms.”  
G. Van Meulebeke, M. Godefroid and N. Vaeck  
Réunion du groupe de contact du FNRS “Atoms, Molecules and Radiation”, Rijksuniversiteit Gent, Gand, May 23, 1991.
- “The ground torsional state of acetaldehyde.”  
I. Kleiner, J.T. Hougen, R.D. Suenram, F.J. Lovas and M. Godefroid  
46th The Ohio State University International Symposium on Molecular Spectroscopy, Columbus, U.S.A., June 17–21, 1991.

- “*Accurate oscillator strengths of astrophysical interest for neutral carbon, nitrogen and oxygen.*”  
E. Biémont, A. Hibbert, M. Godefroid and N. Vaeck  
Assemblée Générale de l’Union Astronomique Internationale (IAU), Buenos Aires, July 22–August 2, 1991.
- “*MCHF calculations of isotope shifts in calcium.*”  
M. Godefroid, N. Vaeck, T. Brage and C. Froese Fischer  
Fourth European Conference on Atomic and Molecular Physics, Riga, Latvia, April 6-10, 1992.
- “*Core-polarization against explicit correlation in alkali-like atoms.*”  
G. Van Meulebeke, M. Godefroid and N. Vaeck  
Fourth European Conference on Atomic and Molecular Physics, Riga, Latvia, April 6-10, 1992.
- “*Calculs ab initio atomiques et moléculaires.*”  
A. Aboussaïd, F. Culot, S. Damoun, G. De Maré, M. Godefroid, F. Laruelle, J. Liévin, N. Vaeck, G. Van Meulebeke and G. Verhaegen  
Journée Chimie 1992, U.L.B., Bruxelles, March 9, 1992.
- “*Accurate oscillator strengths for neutral carbon and astrophysical implications.*”  
E. Biémont, A. Hibbert, M. Godefroid and N. Vaeck  
4th International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas, NIST, Gaithersburg, Md. (U.S.A.), September 14-17, 1992.
- “*Internal Rotation and Intensity Calculation in Acetaldehyde.*”  
M. Godefroid, I. Kleiner and J.T. Hougen  
Réunion du groupe de contact du FNRS “High Resolution Molecular Spectroscopy”, Université Libre de Bruxelles, Bruxelles, December 1, 1992.
- “*Core-valence correlation in nominal one- and two- electron systems.*”  
M. Godefroid  
“Trends in Atomic Structures Calculations and Spectroscopy”, Lund (Sweden), March 3-4, 1993.
- “*Finite-element MCHF calculations of core-valence correlation effects in Ca I.*”  
D. Sundholm, J. Olsen, G. Van Meulebeke and M. Godefroid  
25th European Group for Atomic Spectroscopy (EGAS), Caen (France), July 13-16, 1993.
- “*MCHF calculations of hyperfine structures in Al I.*”  
P. Jönsson, J. Carlsson, G. Van Meulebeke and M. Godefroid  
25th European Group for Atomic Spectroscopy (EGAS), Caen (France), July 13-16, 1993.
- “*MCHF calculations of hyperfine-induced transitions.*”  
A. Aboussaïd, P. Jönsson, and M. Godefroid  
25th European Group for Atomic Spectroscopy (EGAS), Caen (France), July 13-16, 1993.
- “*Hyperfine structure of Sc I by infrared Fourier transform spectroscopy.*”  
A. Aboussaïd, M. Carleer, E. Biémont and M. Godefroid  
25th European Group for Atomic Spectroscopy (EGAS), Caen (France), July 13-16, 1993.

- “*Energy levels of Acetaldehyde above the barrier top: infrared and microwave spectra.*”  
I. Kleiner, M. Godefroid, J.T. Hougen and J. Ortigoso  
Thirteenth Colloquium on High Resolution Molecular Spectroscopy, Riccione (Italy), September 13-17, 1993.
- “*Calculs ab initio atomiques et moléculaires.*”  
A. Aboussaïd, F. Culot, G. De Maré, M. Godefroid, F. Laruelle, J. Liévin, N. Vaeck, G. Van Meulebeke and G. Verhaegen  
Journée Chimie 1994, U.L.B., Bruxelles, March 18, 1994.
- “*Microwave and Infrared Spectra of High Excited Torsional States of Acetaldehyde.*”  
I. Kleiner, J.T. Hougen, M. Godefroid, M. Herman and J. Cosleou  
NATO workshop on “Overtone Spectroscopy and Dynamics”, Han-sur-Lesse (Belgium), April 10-14, 1994.
- “*Calculs de structures atomiques.*”  
M. Godefroid  
Troisième cycle interuniversitaire “Physique atomique et moléculaire”, Université Libre de Bruxelles (Belgium), April 29, 1994.
- “*Applying the quark model to the atomic d shell*”  
M. Godefroid, N. Vaeck and B.R. Judd  
General Scientific Meeting, Société Belge de Physique, Université de Mons, May 26-27, 1994.
- “*MCHF calculations of hyperfine-induced transitions in He-like ions*”  
A. Aboussaïd, M. Godefroid and P. Jönsson  
General Scientific Meeting, Société Belge de Physique, Université de Mons, May 26-27, 1994.
- “*Large-scale MCHF calculations of hyperfine structures in Nitrogen and Oxygen*”  
G. Van Meulebeke, M. Godefroid and P. Jönsson  
General Scientific Meeting, Société Belge de Physique, Université de Mons, May 26-27, 1994.
- “*Non-orthogonalities in transition matrices: no problem*”  
J. Olsen, M. Godefroid, P. Jönsson, P.Å. Malmqvist and C. Froese Fischer  
International workshop on iron group atoms in the laboratory and space, Lund (Sweden), June 28-29, 1994.
- “*Applying the quark model to the atomic d shell*”  
M. Godefroid, N. Vaeck and B.R. Judd  
26th European Group for Atomic Spectroscopy (EGAS), Barcelona (Spain), July 12-15, 1994.
- “*Systematic studies of isotope shifts in light atoms by active set MCHF calculations*”  
J. Carlsson, P. Jönsson, M. Godefroid and C. Froese Fischer  
26th European Group for Atomic Spectroscopy (EGAS), Barcelona (Spain), July 12-15, 1994.
- “*On the use of RAS configuration interaction expansions to deal with non-orthogonalities in transition probability calculations*”  
J. Olsen, P.Å. Malmqvist, M. Godefroid, P. Jönsson and C. Froese Fischer  
26th European Group for Atomic Spectroscopy (EGAS), Barcelona (Spain), July 12-15, 1994.
- “*Analysis of correlation effects on hyperfine structures in Al and Ca<sup>+</sup>*”  
G. Van Meulebeke, M. Godefroid and P. Jönsson  
26th European Group for Atomic Spectroscopy (EGAS), Barcelona (Spain), July 12-15, 1994.

- *“Large-scale MCHF calculations of hyperfine structures in Nitrogen and Oxygen”*  
G. Van Meulebeke, M. Godefroid and P. Jönsson  
26th European Group for Atomic Spectroscopy (EGAS), Barcelona (Spain), July 12-15, 1994.
- *“On the tensorial form of the relativistic magnetic dipole transition operator”*  
A. Aboussaïd, M. Godefroid and L. Smentek-Mielczarek  
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- *“MCHF calculations of hyperfine-induced transitions in He-like ions”*  
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- *“On the use of RAS configuration interaction expansions to deal with non-orthogonalities in transition probability calculations”*  
J. Olsen, M. Godefroid, P. Jönsson, P.Å. Malmqvist and C. Froese Fischer  
14th International Conference on Atomic Physics, Boulder, Colorado (U.S.A.), July 31 - August 5, 1994.
- *“Applying the quark model to the atomic d shell”*  
M. Godefroid, N. Vaeck and B.R. Judd  
14th International Conference on Atomic Physics, Boulder, Colorado (U.S.A.), July 31 - August 5, 1994.
- *“Large-scale MCHF calculations of hyperfine structures in Nitrogen and Oxygen”*  
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- *“MCHF calculations of hyperfine-induced transitions in He-like ions”*  
A. Aboussaïd, M. Godefroid, P. Jönsson and C. Froese Fischer  
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- *“Accurate MCHF oscillator strengths in B and B<sup>+</sup>”*  
M. Godefroid, J. Olsen, P. Jönsson, P.Å. Malmqvist and C. Froese Fischer  
Workshop on Laboratory and Astronomical High Resolution Spectra, Brussels, Belgium, August 29 - September 2, 1994.
- *“Hyperfine structure of Sc I by infrared Fourier transform spectroscopy.”*  
A. Aboussaïd, M. Carleer, E. Biémont and M. Godefroid  
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- *“Large-scale MCHF calculations of isotope shifts in light atoms.”*  
J. Carlsson, P. Jönsson, C. Froese Fischer and M. Godefroid  
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- *“Accurate MCHF calculations of the oscillator strength and hyperfine structures in the sodium resonance transition.”*  
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- “*Systematic calculations of  $n = 2$  transitions in Be-like ions, and trends along the sequence.*”  
J. Fleming, N. Vaeck, M. Godefroid, K.L. Bell and A. Hibbert  
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- “*Systematic calculations transitions in N IV.*”  
J. Fleming, T. Brage, K.L. Bell, N. Vaeck, M. Godefroid, A. Hibbert and C. Froese Fischer  
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- “*MCHF calculations of hyperfine-induced transitions in the Breit-Pauli approximation.*”  
A. Aboussaïd, M. Godefroid, C. Froese Fischer and P. Jönsson  
European Research Conference on “Relativistic Effects in Heavy-Element Chemistry and Physics: Relativistic Quantum Theory of Many-Electron Systems”, Castelvechio Pascoli, Italy, March 30 - April 4, 1995.
- “*Large-scale MCHF calculations of isotope shifts and hyperfine structures in light atoms.*”  
J. Carlsson, P. Jönsson, C. Froese Fischer and M. Godefroid  
The 5th European Conference on Atomic and Molecular Physics, Edinburgh, United Kingdom, April 3-7, 1995.
- “*Hyperfine structure of some  $3d^4 4s - 3d^3 4s 4p$  Vanadium transitions observed between 1800 and  $9000 \text{ cm}^{-1}$ .*”  
P. Palmeri, E. Biémont, Aboussaïd and M. Godefroid  
The 5th European Conference on Atomic and Molecular Physics, Edinburgh, United Kingdom, April 3-7, 1995.
- “*Allowed and forbidden transitions in the beryllium isoelectronic series up to Mg IX.*”  
A. Hibbert, K.L. Bell, J. Fleming, M. Godefroid and N. Vaeck  
The 5th European Conference on Atomic and Molecular Physics, Edinburgh, United Kingdom, April 3-7, 1995.
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- “*Hyperfine quenching of  $1s^2 2s 2p \ ^3P_0^o$  in C III and N IV.*”  
A. Aboussaïd, M. Godefroid, T. Brage, C. Froese Fischer and P. Jönsson  
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- “*Hyperfine structure of V I lines.*”  
P. Palmeri, E. Biémont, Aboussaïd and M. Godefroid  
SBP General Scientific Meeting, Universiteit Antwerpen UIA, May 4-5, 1995.
- “*Study of electronic transitions induced by nuclear transmutation or neutral recoil.*”  
L. Wauters, N. Vaeck, M. Demeur, M. Godefroid et Ch. Leclercq-Willain  
SBP General Scientific Meeting, Universiteit Antwerpen UIA, May 4-5, 1995.
- “*Large-scale MCHF calculations for the resonance transition of Na: hyperfine constants and transition rates.*”  
C. Froese Fischer, P. Jönsson, A. Ynnerman, M. Godefroid and J. Olsen  
DAMOP meeting of the American Physical Society, Toronto, Canada, May 16-19, 1995.
- “*Study of the electronic rearrangement induced by nuclear transmutations: A B-spline approach applied to the  $\beta$ -decay of  $^6\text{He}$  and  $^6\text{He}^+$ .*”  
N. Vaeck, L. Wauters, M. Demeur and M. Godefroid  
9th International Conference on The Physics of Electronic and Atomic Collisions (ICPEAC), Whistler (Canada), July 26 - August 26, 1995.
- “*MCHF calculations for  $2s^2 \ ^1S - 2s 3p \ ^1P^o$  transitions in some Be-like systems.*”  
C. Froese Fischer, M. Godefroid and J. Olsen  
5th International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas, Meudon, France, August 28-31, 1995.
- “*Accurate transition probabilities for light atoms.*”  
M. Godefroid, P. Jönsson and C. Froese Fischer  
5th International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas, Meudon, France, August 28-31, 1995.
- “*Large-scale MCHF and CI calculations of the transition probability and hyperfine structures in the sodium resonance transition.*”  
P. Jönsson, A. Ynnerman, C. Froese Fischer, M. Godefroid and J. Olsen  
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- “*Hyperfine Quenching of the  $1s^2 2s 2p \ ^3P_0^o$  in C III and N IV and their astrophysical interest.*”  
A. Aboussaïd, T. Brage, C. Froese Fischer, P.G. Judge, M. Godefroid and P. Jönsson,  
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- *“Allowed and forbidden transitions in the Be sequence.”*  
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- *“Study of molecular dynamics with the Balian-Vénéroni variational principle.”*  
A. Karlson, M. Godefroid, J. Liévin and P.-H. Heenen  
Groupe de Contact FNRS “Atomes, Molécules et Radiation”, ULB, Bruxelles, June 7, 1996.
- *“Isotope shifts in Nickel”*  
A. Yousfi, M. Godefroid and N. Vaeck  
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- *“MCHF calculations of the Fano parameters for triply-excited Lithium states”*  
N. Vaeck and M. Godefroid  
28th European Group for Atomic Spectroscopy (EGAS) Conference, Graz (Austria), July 16-19, 1996.
- *“Modification of the electronic distribution induced by nuclear transformations”*  
N. Vaeck, L. Wauters, M. Demeur and M. Godefroid  
28th European Group for Atomic Spectroscopy (EGAS) Conference, Graz (Austria), July 16-19, 1996.
- *“Convergence studies of atomic properties from variational methods”*  
M. Godefroid, C. Froese Fischer, P. Jönsson and J. Olsen  
15th International Conference on Atomic Physics (ICAP) Zeeman-Effect Centenary, Amsterdam, The Netherlands, August 5-9, 1996.
- *“MCHF calculations of the Fano parameters for triply-excited Lithium states”*  
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- *“Study of Molecular Dynamics with the Balian - Vénéroni Variational Principle”*  
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- *“On the use of biorthonormal bases, a good example of methodology transfer from Quantum Chemistry to Atomic Physics”*  
M. Godefroid, J. Olsen and N. Vaeck  
Quantum Chemistry in Belgium, Leuven, Belgium, September 26, 1996.
- *“Hyperfine structures and effects in atoms: the ab initio approach”*  
A. Aboussaïd, A. Yousfi, M. Godefroid and P. Jönsson  
Quantum Chemistry in Belgium, Leuven, Belgium, September 26, 1996.

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A. Karlson, M. Godefroid, J. Liévin and P.-H. Heenen  
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- “*MCHF calculations of autotization rates for hollow Lithium states*”  
N. Vaeck and M. Godefroid  
Twentieth International Conference on the Physics of Electronic and Atomic Collisions (XX. ICPEAC), Vienna, Austria, July 23-29, 1997.
- “*Oscillator strengths for atoms/ions of astrophysical importance*”  
J. Fleming, A. Hibbert, K.L. Bell, M. Godefroid and N. Vaeck  
Twentieth International Conference on the Physics of Electronic and Atomic Collisions (XX. ICPEAC), Vienna, Austria, July 23-29, 1997.
- “*Theoretical study of isotope shifts in Ni I and Ni II*”  
A. Yousfi, M. Godefroid and E. Biémont,  
29th European Group for Atomic Spectroscopy (EGAS) Conference, Berlin (Germany), July 15-18, 1997.
- “*Atomic structure variational calculations in spectroscopy*”  
M. Godefroid, C. Froese Fischer and P. Jönsson,  
3rd Meeting on Quantum Chemistry in Belgium, Brussels, Belgium, October 9, 1997.
- “*Theoretical study of isotope shifts in Ni I and Ni II*”  
A. Yousfi, M. Godefroid and E. Biémont,  
3rd Meeting on Quantum Chemistry in Belgium, Brussels, Belgium, October 9, 1997.
- “*The  $3s^2S - 4p^2P^o$  transition probability in  $Mg^+$ : a theoretical challenge*”  
J. Fleming, M. Godefroid, A. Hibbert, N. Vaeck, K. Bell and C. Froese Fischer,  
6th European Physical Society (EPS) on Atomic and Molecular Physics, Siena (Italy), July 14-18, 1998.
- “*MCHF and MCDF calculations of two-electron -one-photon (TEOP) transitions from hollow atoms*”  
N. Vaeck, S. Fritzsche and M. Godefroid,  
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N. Vaeck, S. Fritzsche and M. Godefroid, 6th International Colloquium on Atomic Spectra and Oscillator Strengths (ASOS6), University of Victoria, Victoria, British Columbia (Canada), August 9-13, 1998.
- “*Oscillator strengths for the weak  $3s^2S - 4p^2P^o$  transition in  $Mg II$* ”  
J. Fleming, M. Godefroid, A. Hibbert, K.L. Bell and C. Froese Fischer,  
6th International Colloquium on Atomic Spectra and Oscillator Strengths (ASOS6), University of Victoria, Victoria, British Columbia (Canada), August 9-13, 1998.
- “*MCHF and MCHF+BP atomic properties of lithium-like ions*”  
M. Godefroid, C. Froese Fischer, G. Gaigalas, M. Saporov and P. Jönsson,  
6th International Colloquium on Atomic Spectra and Oscillator Strengths (ASOS6), University of Victoria, Victoria, British Columbia (Canada), August 9-13, 1998.

- “*Experimental and theoretical investigation of excited gas phase molecules*”  
M. Godefroid, M. Herman, J. Liévin, N. Vaeck and J. Vander Auwera,  
Assemblée générale annuelle de la Société Royale de Chimie, Namur (Belgium), October 1-2, 1998.
- “*MCDF calculations of transition rates of astrophysical interest in neutral Technetium*”  
M. Godefroid and C. Froese Fischer,  
European Research Conference on *Relativistic Effects in Heavy-Element Chemistry and Physics*, Acquafredda di Maratea (Italy), April 10-15, 1999.
- “*The isotope shift in the oxygen electron affinity*”  
M. Godefroid and C. Froese Fischer,  
31st European Group for Atomic Spectroscopy (EGAS), Marseille (France), July 6-9, 1999.
- “*Core-polarization effects in the Cadmium isoelectronic sequence*”  
E. Biémont, C. Froese Fischer, M. Godefroid, P. Palmeri and P. Quinet,  
31st European Group for Atomic Spectroscopy (EGAS), Marseille (France), July 6-9, 1999.
- “*Studies of Gadolinium ionization energy*”  
G. Gaigalas, C. Froese Fischer, M. Godefroid and Z. Rudzikas,  
31st European Group for Atomic Spectroscopy (EGAS), Marseille (France), July 6-9, 1999.
- “*Sur le rôle de la symétrie en spectroscopie atomique*”  
M. Godefroid,  
Ecole Doctorale en Physique Microscopique et Astrophysique, ULB, Bruxelles, April 6, 2000.
- “*Ab initio study of two isoelectronic ions:  $O^-$  and  $Ne^+$* ”.  
M. Godefroid,  
Réunion du groupe de contact du FNRS “Atoms, Molecules and Radiation”, Université de Mons-Hainaut, April 7, 2000.
- “ *$^{17}O^-$  photodetachment microscopy and hyperfine structure*”  
C. Delsart, M. Godefroid, C. Blondel, C. Valli and S. Van Eck  
17th International Conference on Atomic Physics (ICAP), Florence (Italy), June 4-9, 2000.
- “*Theoretical evaluation of the  $Be^- 2s2p^2 4P$  hyperfine parameters and  $Be 2s2p^3 P^o$  electron-affinity*”  
M. Godefroid, P. Jönsson and M. Nemouchi  
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- “*Core-polarization effects in neutral technetium*”  
M. Godefroid, C. Froese Fischer, J.-F. Wyart and P. Palmeri  
32nd European Group for Atomic Spectroscopy (EGAS), Vilnius (Lithuania), July 4-7, 2000.
- “*Theoretical evaluation of the  $Be^- 2s2p^2 4P$  hyperfine parameters and  $Be 2s2p^3 P^o$  electron-affinity*”  
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32nd European Group for Atomic Spectroscopy (EGAS), Vilnius (Lithuania), July 4-7, 2000.

- “*Parametric analysis and ab initio calculations of isotope shifts in neutral and singly-ionized nickel*”  
M. Godefroid, A. Yousfi, J. Bauche and C. Froese Fischer  
The Seventh European Conference on Atomic and Molecular Physics (ECAMP VII), Berlin (Germany), April 2-6, 2001.
- “*Hyperfine structure calculations of excited levels in neutral scandium*”  
J. Bieroń, C. Froese Fischer and M. Godefroid  
34th European Group for Atomic Spectroscopy (EGAS), Sofia (Bulgaria), July 9-12, 2002.
- “*Theoretical evaluation of the  $^{7,9}\text{Be}^- 2s2p^2 \ ^4P_{1/2,3/2,5/2}$  hyperfine structure parameters and Be  $2s2p \ ^3P^o$  electron-affinity*”  
M. Nemouchi, P. Jönsson, J. Pinard and M. Godefroid  
35th European Group for Atomic Spectroscopy (EGAS), Brussels (Belgium), July 15-18, 2003.
- “*Isotope shift in the electron affinity of beryllium*”  
M. Nemouchi, A. Taleb and M. Godefroid  
35th European Group for Atomic Spectroscopy (EGAS), Brussels (Belgium), July 15-18, 2003.
- “*Radiative lifetimes of  $3p \ ^2P_j^o$  in Boron-like Nitrogen*”  
M. Godefroid, H.-P. Garnir, P. Indelicato and P. Mabilie  
XXIV International Conference on Photonic, Electronic and Atomic Collisions, Rosario (Argentina), July 20-26, 2005.
- “*On the construction and evaluation of a information theory based similarity index for atoms from numerical Hartree-Fock wave functions*”  
A. Borgoo, M. Godefroid, F. De Proft and P. Geerlings  
37th European Group for Atomic Spectroscopy (EGAS), Dublin (Ireland), August 3-6, 2005.
- “*Radiative lifetimes of  $3p \ ^2P_j^o$  in Boron-like Nitrogen*”  
H.-P. Garnir, M. Godefroid, P. Indelicato, P. Mabilie and D. Rostohar  
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- “*Information Theory and Quantum Similarity of Atoms*”  
A. Borgoo, M. Godefroid, F. De Proft and P. Geerlings  
Quantum Chemistry in Belgium : 7th Edition (QCB7), Mons (Belgium), January 27, 2006.
- “*Information Theory and Quantum Similarity of Atoms*”  
A. Borgoo, M. Godefroid, F. De Proft and P. Geerlings  
Chemical Reactivity : A Three Day International Conference on Theoretical Aspects of Reactivity, Brussels (Belgium), April 5-7, 2006.
- “*Ab initio calculations of the Sulfur electron-affinity: the atomic and molecular approaches*”  
T. Carette, M.R. Godefroid, J. Liévin and O. Scharf  
38th European Group for Atomic Spectroscopy (EGAS), Ischia, Naples, (Italy), June 7-10, 2006.
- “*On the competition between radiative and Auger decays of the  $1s2s2p \ ^4P_{5/2}^o$  metastable state in Li-like ions*”  
M.R. Godefroid, P. Indelicato, C. Mendoza, P. Palmeri, P. Quinet and N. Vaeck  
38th European Group for Atomic Spectroscopy (EGAS), Ischia, Naples, (Italy), June 7-10, 2006.

- “*Information Theory and Quantum Similarity of Atoms*”  
A. Borgoo, M.R. Godefroid, F. De Proft and P. Geerings  
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- “*On the  $1s2s2p\ ^4P_{5/2}^o$  metastable state in the Li-like ions*”  
P. Palmeri, P. Quinet, C. Mendoza, M. Godefroid, N. Vaeck and P. Indelicato  
“High Accuracy Atomic Physics in Astronomy” - A joint workshop planned with participants from the International Iron Project and ITAMP, The Harvard-Smithsonian Center for Astrophysics, Cambridge, Massachusetts, (USA), August 7-9, 2006.
- “*Identification of near-UV predissociation lines of CH in carbon-enhanced Fe-poor stars*”  
B. Plez, T. Masseron, S. Van Eck, A. Jorissen, P.-F. Coheur, M. Godefroid and N. Christlieb  
14th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun, Pasadena (USA), November 5-10, 2006.
- “*Ab initio calculations of the Sulfur electron affinity in the MCHF approach*”  
T. Carette, O. Scharf, M.R. Godefroid and C. Froese Fischer  
9th Conference on Atoms, Molecules and Photons (ECAMP IX), Heraklion (Greece), May 6-11, 2007.
- “*On a comparison between Breit-Pauli and fully relativistic approaches at high Z: the  $1s2s2p\ ^4P_{5/2}^o$  highly magnetic metastable state in the Li isoelectronic sequence*”  
P. Palmeri, P. Quinet, C. Mendoza, M.R. Godefroid, P. Indelicato and N.R. Badnell  
9th Conference on Atoms, Molecules and Photons (ECAMP IX), Heraklion (Greece), May 6-11, 2007.
- “*On the fine structure branching ratios of photodetachment intensities through the irreducible tensorial expression of second quantization operators*”  
O. Scharf and M.R. Godefroid  
9th Conference on Atoms, Molecules and Photons (ECAMP IX), Heraklion (Greece), May 6-11, 2007.
- “*The Sulfur electron affinity: a good test case for theoretical isotope shift calculations*”  
M. Godefroid, T. Carette, O. Scharf and C. Froese Fischer  
9th International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas (ASOS9), Lund, Sweden - August 7-10, 2007.
- “*Ab initio calculations of the Sulfur electron-affinity in the MCHF approach*”  
T. Carette, O. Scharf, M. Godefroid and C. Froese Fischer  
Conference on Computational Physics (CCP2007), Brussels, September 5-8, 2007.
- “*Photodetachment intensities of fine structure components calculated in Maple*”  
O. Scharf and M. Godefroid  
Conference on Computational Physics (CCP2007), Brussels, September 5-8, 2007.
- “*Isotope shift in the electron affinity of sulfur: observation and theory*”  
T. Carette, C. Drag, C. Blondel, C. Delsart, C. Froese Fischer, M. Godefroid and O. Scharf  
40th European Group for Atomic Systems (EGAS), Graz (Austria), July 2-5, 2008.

- *“Isotope shift in the electron affinity of sulfur: observation and theory”*  
M. Godefroid, T. Carette, C. Drag, C. Blondel, C. Delsart, C. Froese Fischer and O. Scharf  
 International Conference on Atomic Physics XXI (ICAP 2008), Storrs (Connecticut, USA),  
 July 27 - August 1, 2008.
- *“Theoretical study of the hyperfine structure and isotope shifts in near-infrared transitions of atomic nitrogen”*  
M. Godefroid, M. Nemouchi and P. Jönsson  
 International Conference on Atomic Physics XXI (ICAP 2008), Storrs (Connecticut, USA),  
 July 27 - August 1, 2008.
- *“Theoretical Study of the Hyperfine Structure and Isotope Shifts in Near-Infrared Transitions of Atomic Nitrogen”*  
P. Jönsson, M. Godefroid and M. Nemouchi  
 The 6th International Conference on Atomic and Molecular Data and Their Applications  
 (ICAMDATA 06), Beijing (China), October 28-31, 2008.
- *“Ab initio study of the hyperfine structure and isotope shifts of near-infrared transitions in neutral nitrogen”*  
M. Godefroid, T. Carette, M. Nemouchi and P. Jönsson  
 426th Wilhelm and Else Heraeus Seminar, “Atomic Theory for Fundamental Interactions and  
 Simple Systems in Strong Fields”, Bad Honnef (Germany), January 18-21, 2009.
- *“Operational families of entanglement classes for symmetric N-qubit states”*  
T. Bastin, S. Krins, P. Mathonet, M. Godefroid, L. Lamata and E. Solano  
 General Scientific Meeting 2009 of the Belgian Physical Society and Belgian Biophysical So-  
 ciety, Hasselt (Belgium), April 1, 2009.
- *“The density function for atoms in second quantization, addressing the symmetry”*  
A. Borgoo, O. Scharf, G. Gaigalas and M. Godefroid  
 41st European Group for Atomic Systems (EGAS), Gdańsk (Poland), July 8-11, 2009.
- *“Hyperfine structure of near-infrared transitions in neutral nitrogen revisited”*  
T. Carette, M. Nemouchi, M. Godefroid and P. Jönsson  
 41st European Group for Atomic Systems (EGAS), Gdańsk (Poland), July 8-11, 2009.
- *“A theoretical study of the isotope shift on electron affinity of chlorine”*  
T. Carette, and M. Godefroid  
 41st European Group for Atomic Systems (EGAS), Gdańsk (Poland), July 8-11, 2009.
- *“Relativistic ab initio calculations of isotope shifts”*  
C. Nazé, M. Godefroid and J.P. Santos  
 41st European Group for Atomic Systems (EGAS), Gdańsk (Poland), July 8-11, 2009.
- *“Description of the Be ground state based on the interaction of separately optimized pair cor-  
 relation functions”*  
S. Verdebout, C. Froese Fischer, G. Gaigalas, M. Godefroid and P. Jönsson  
 41st European Group for Atomic Systems (EGAS), Gdańsk (Poland), July 8-11, 2009.
- *“Entanglement of Equivalence of Symmetric N-qubit states”*  
T. Bastin, S. Krins, P. Mathonet, M. Godefroid, L. Lamata and E. Solano  
 CRYPTASC Workshop, Brussels (Belgium), October 6, 2009.

- “*Exploring Biorthonormal Transformations of Pair-Correlation Functions in Atomic Structure Variational Calculations.*”  
S. Verdebout, C. Froese Fischer, G. Gaigalas, P. Jönsson and M. Godefroid  
Groupe de Contact FNRS “Atomes, Molécules et Radiation”, ULB, Bruxelles, October 13, 2009.
- “*Pair-correlation functions interaction problem using biorthonormal transformations in variational atomic calculations.*”  
S. Verdebout, C. Froese Fischer, G. Gaigalas, P. Jönsson and M. Godefroid  
Ecole doctorale thématique “Métamorphose”, ULB, Brussels (Belgium), January 29th, 2010.
- “*Configuration interaction with separately optimized pair correlation functions*”  
C. Froese Fischer, M. Godefroid, S. Verdebout, G. Gaigalas and P. Jönsson  
50th Sanibel Symposium, February 24th - March 2nd 2010 (University of Florida), St. Simons Island, Georgia.
- “*Variational Pair-Correlation Functions for Atomic Properties*”  
S. Verdebout, P. Jönsson, G. Gaigalas, C. Froese Fischer and M. Godefroid  
10th European Conference on Atoms, Molecules and Photons (ECAMP2010), Salamanca (Spain), July 4-9, 2010.
- “*Relativistic Mass Shift Calculations with GRASP2K Package*”  
P. Rynkun, E. Gaidamauskas, M. Godefroid, G. Gaigalas, P. Jönsson and C. Nazé  
10th European Conference on Atoms, Molecules and Photons (ECAMP2010), Salamanca (Spain), July 4-9, 2010.
- “*Large scale calculations of energy, mass polarisation, fine and hyperfine structures of  $C\ 2p^2\ 3P, 1D, 1S$  and  $C^-\ 2p^3\ 4S^o, 2D^o$* ”  
T. Carette and M. Godefroid  
10th European Conference on Atoms, Molecules and Photons (ECAMP2010), Salamanca (Spain), July 4-9, 2010.
- “*Hyperfine structure of low-lying states of  $^{14,15}N$* ”  
T. Carette, M. Nemouchi, P. Jönsson and M. Godefroid  
10th European Conference on Atoms, Molecules and Photons (ECAMP2010), Salamanca (Spain), July 4-9, 2010.
- “*Isotope shifts on the electron affinities of Cl and S and hyperfine structures of S, S<sup>-</sup> and Cl by a MCHF-CI approach*”  
T. Carette and M. Godefroid  
10th European Conference on Atoms, Molecules and Photons (ECAMP2010), Salamanca (Spain), July 4-9, 2010.
- “*Variational Pair-Correlation Functions for Atomic Properties*”  
S. Verdebout, P. Rynkun, P. Jönsson, G. Gaigalas, C. Froese Fischer and M. Godefroid  
The Seventh International Conference on Atomic and Molecular Data and Their Applications (ICAMDATA 2010), Vilnius, Lithuania, September 21 - 24, 2010.
- “*Hyperfine structure of low-lying states of  $^{14,15}N$* ”  
T. Carette, M. Nemouchi, P. Jönsson, and M. Godefroid  
The Seventh International Conference on Atomic and Molecular Data and Their Applications (ICAMDATA 2010), Vilnius, Lithuania, September 21 - 24, 2010.

- “*Relativistic Mass Shift Calculations with GRASP2K Package*”  
P. Rynkun, E. Gaidamauskas, M. Godefroid, G. Gaigalas, P. Jönsson, C. Nazé  
The Seventh International Conference on Atomic and Molecular Data and Their Applications (ICAMDATA 2010), Vilnius, Lithuania, September 21 - 24, 2010.
- “*Atomic Electron Density Functions*”  
A. Borgoo and M. Godefroid  
XVth International Workshop on Quantum Systems in Chemistry and Physics, Magdalene College, Cambridge, England, Aug 31 - Sept 5, 2010.
- “*Atomic Density Function, addressing the symmetry*”  
A. Borgoo and M. Godefroid  
European Seminar on Computational Methods in Quantum Chemistry - 2011, Oscarsborg Fortress, Drøbak, Norway, June 16 - 19 2011.
- “*Carbon-enhanced metal-poor stars: witnesses of the first generation of stars*”  
T. Masseron, B. Plez, S. Van Eck, A. Jorissen, P.-F. Coheur, M. Godefroid, R. Colin and P. Bernath  
National Meeting of the French astronomical community “Semaine de l’Astrophysique Française”, Paris, France, June 20-23, 2011.
- “*Isotope effects in atomic negative ions: promises and challenges*”  
T. Carette and M. Godefroid  
43rd Congress of the European Group on Atomic Systems (EGAS), Fribourg, Switzerland, June 28 - July 2, 2011.
- “*Ab-initio multi-configuration Dirac-Hartree-Fock calculation on the lifetimes of levels in  $2p^5 3s$  configuration of neutral neon*”  
J. G. Li, S. Verdebout and M. R. Godefroid  
43rd Congress of the European Group on Atomic Systems (EGAS), Fribourg, Switzerland, June 28 - July 2, 2011.
- “*Relativistic calculations on isotope shifts in barium*”  
C. Nazé, J. G. Li and M. R. Godefroid  
43rd Congress of the European Group on Atomic Systems (EGAS), Fribourg, Switzerland, June 28 - July 2, 2011.
- “*Interaction of variational localized correlation functions for atomic properties*”  
S. Verdebout, M. R. Godefroid, P. Rynkun, P. Jönsson, G. Gaigalas, and C. Froese Fischer  
43rd Congress of the European Group on Atomic Systems (EGAS), Fribourg, Switzerland, June 28 - July 2, 2011.
- “*Atomic properties of neutral Ne using the LCFI method*”  
S. Verdebout, J. G. Li, C. Nazé, M. R. Godefroid, P. Jönsson, and G. Gaigalas  
43rd Congress of the European Group on Atomic Systems (EGAS), Fribourg, Switzerland, June 28 - July 2, 2011.
- “*Isotope shifts and hyperfine structures of the  $3p^3 \ ^4S^o$ ,  $\ ^2D^o$  and  $\ ^2P^o$  multiplets of  $Si^-$  and  $3p^2 \ ^3P$  term of  $Si$* ”  
T. Carette and M. R. Godefroid  
43rd Congress of the European Group on Atomic Systems (EGAS), Fribourg, Switzerland, June 28 - July 2, 2011.



- “*Theoretical study of hyperfine structure constants of Ga isotopes*”  
Q. Wang, J. Li, S. Fritzsche, M. Godefroid, Z. Chang and C. Dong  
XXVII International Conference on Photonic, Electronic and Atomic Collisions (ICPEAC 2011), Belfast, Northern Ireland, UK, July 27 - August 2, 2011.
- “*Interaction of Variational Localised Correlation Functions for Atomic Properties of Be I*”  
S. Verdebout, P. Rynkun, P. Jönsson, G. Gaigalas, C. Froese Fischer and M. Godefroid  
XXVII International Conference on Photonic, Electronic and Atomic Collisions (ICPEAC 2011), Belfast, Northern Ireland, UK, July 27 - August 2, 2011.
- “*Ab initio multi-configuration Dirac-Hartree-Fock calculation on the lifetimes of levels in  $2p^5 3s$  configuration of neutral neon*”  
J. G. Li, S. Verdebout and M. Godefroid  
XXVII International Conference on Photonic, Electronic and Atomic Collisions (ICPEAC 2011), Belfast, Northern Ireland, UK, July 27 - August 2, 2011.
- “*Relativistic calculations on isotope shifts in barium*”  
C. Nazé, J.G. Li and M. Godefroid  
XXVII International Conference on Photonic, Electronic and Atomic Collisions (ICPEAC 2011), Belfast, Northern Ireland, UK, July 27 - August 2, 2011.
- “*Observation of CH-predissociation lines in stellar atmospheres*”  
T. Masseron, B. Plez, S. Van Eck, A. Jorissen, P.-F.Coheur, M. Godefroid, R. Colin and P. Bernath  
22nd Colloquium of High Resolution Spectroscopy 2011, Dijon, France, August 29 - September 2, 2011.
- “*On the energy difference between  $1s^2 2s^2 2p^2 P^o$  and  $1s^2 2s 2p^2 ^4 P$  in Boron*”  
P. Rynkun, S. Verdebout, P. Jönsson, G. Gaigalas, C. Froese Fischer and M. Godefroid  
44th Conference of the European Group on Atomic Systems (EGAS), Gothenburg, Sweden, July 9-13, 2012.
- “*Molecules in stellar atmospheres*”  
T. Masseron, B. Plez, S. Van Eck, A. Jorissen, P.-F.Coheur, M. Godefroid, R. Colin and P. Bernath  
13th Meeting of the FNRS Contact Group Astronomie & Astrophysique Astronomy Day of the Royal Observatory of Belgium, Brussels, Belgium, May 14, 2012.
- “*Relativistic effects on the hyperfine structures of  $2p^4(^3P)3p^2 D^o, ^4 D^o$  and  $^2 P^o$  in F I*”  
M. Godefroid, M. Nemouchi, J.G. Li and T. Carette  
44th Conference of the European Group on Atomic Systems (EGAS), Gothenburg, Sweden, July 9-13, 2012.
- “*Mass and field isotope shift parameters for the  $2s - 2p$  resonance doublet of lithium-like ions*”  
J.G. Li, C. Nazé, M. Godefroid, S. Fritzsche, G. Gaigalas, P. Indelicato and P. Jönsson  
44th Conference of the European Group on Atomic Systems (EGAS), Gothenburg, Sweden, July 9-13, 2012.
- “*Isotope shift parameters, hyperfine interaction constants and Landé factors along the Be, B, C and N isoelectronic sequences*”  
C. Nazé, S. Verdebout, P. Rynkun, P. Jönsson, G. Gaigalas and M. Godefroid

44th Conference of the European Group on Atomic Systems (EGAS), Gothenburg, Sweden, July 9-13, 2012.

- “*A Partitioned Correlation Function approach for atomic properties*”  
S. Verdebout, P. Rynkun, P. Jönsson, G. Gaigalas, C. Froese Fischer and M. Godefroid  
44th Conference of the European Group on Atomic Systems (EGAS), Gothenburg, Sweden, July 9-13, 2012.
- “*Relativistic effects on the hyperfine structures of  $2p^4(^3P)3p^2D^o, ^4D^o$  and  $^2P^o$  in F I*”  
M. Nemouchi, J.G. Li, T. Carette and M. Godefroid  
The 23rd International Conference on Atomic Physics (ICAP 2012), Palaiseau, France, July 23-27, 2012.
- “*Hyperfine-induced  $2s2p^3P_0^o - 2s^22p^2^3P_0$  transitions in C-like ions*”  
J.G. Li, P. Jönsson, J.P. Marques and M. Godefroid  
16th International Conference Physics of Highly Charged Ions (HCI 2012), Heidelberg, Germany, September 2-7, 2012.
- “*Mass and field isotope shift parameters for the  $2s - 2p$  resonance doublet of lithium-like ions*”  
J.G. Li, C. Nazé, M. Godefroid, S. Fritzsche, G. Gaigalas, P. Indelicato and P. Jönsson  
16th International Conference Physics of Highly Charged Ions (HCI 2012), Heidelberg, Germany, September 2-7, 2012.
- “*Computational Atomic Structure*”  
J. Bieroń, T. Brage, C. Froese Fischer, G. Gaigalas, M. Godefroid and P. Jönsson  
Eight International Conference on Atomic and Molecular Data and Their Applications (ICAMDATA-8), NIST, Gaithersburg, MD, USA, September 30 - October 4, 2012.
- “*Mass and field isotope shift parameters for the  $2s - 2p$  resonance doublet of lithium-like ions*”  
J.G. Li, C. Nazé, M. Godefroid, S. Fritzsche, G. Gaigalas, P. Indelicato and P. Jönsson  
Eight International Conference on Atomic and Molecular Data and Their Applications (ICAMDATA-8), NIST, Gaithersburg, MD, USA, September 30 - October 4, 2012.
- “*A Partitioned Correlation Function approach for atomic properties*”  
S. Verdebout, P. Rynkun, P. Jönsson, G. Gaigalas, C. Froese Fischer and M. Godefroid  
Eight International Conference on Atomic and Molecular Data and Their Applications (ICAMDATA-8), NIST, Gaithersburg, MD, USA, September 30 - October 4, 2012.
- “*The Partitioned Correlation Function Interaction approach applied to B I, C II and more complex systems*”  
S. Verdebout, P. Rynkun, P. Jönsson, G. Gaigalas, C. Froese Fischer and M. Godefroid  
XXVIII International Conference on Photonic, Electronic and Atomic Collisions (ICPEAC), Lanzhou, China, July 24-30, 2013.
- “*The ATSP2K and GRASP2K Multiconfiguration Atomic Structure Program Packages*”  
P. Jönsson, G. Gaigalas, M. Godefroid, J. Bieroń and C. Froese Fischer  
XXVIII International Conference on Photonic, Electronic and Atomic Collisions (ICPEAC), Lanzhou, China, July 24-30, 2013.
- “*Atomic Data and Stark Broadening Parameters for Sn II and Sn III*”  
J. Grumer, J. Li, J. Ekman, S. Gustafsson, S. Verdebout, M. Godefroid and P. Jönsson

XXVIII International Conference on Photonic, Electronic and Atomic Collisions (ICPEAC), Lanzhou, China, July 24-30, 2013.

- *“Massive calculations of atomic properties with high accuracy for boron-like iron and other ions of astrophysical interest”*  
P. Jönsson, J. Ekman, S. Gustafsson, H. Hartman, R. du Rietz, G. Gaigalas, M. Godefroid and C. Froese Fischer  
XXVIII International Conference on Photonic, Electronic and Atomic Collisions (ICPEAC), Lanzhou, China, July 24-30, 2013.
- *“Electronic factors for isotope shifts”*  
T. Carette, J. Li, C. Nazé, S. Fritzsche, P. Jönsson and M. Godefroid  
XXVIII International Conference on Photonic, Electronic and Atomic Collisions (ICPEAC), Lanzhou, China, July 24-30, 2013.
- *“The Partitioned Correlation Function Interaction approach applied to B I, C II and more complex systems”*  
S. Verdebout, P. Rynkun, P. Jönsson, G. Gaigalas, M. Godefroid and C. Froese Fischer  
11th International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas (ASOS11), Mons, Belgium, August 4-9, 2013.
- *“Electronic factors for isotope shifts”*  
T. Carette, J. Li, C. Nazé, S. Fritzsche, P. Jönsson and Godefroid  
11th International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas (ASOS11), Mons, Belgium, August 4-9, 2013.
- *“Massive calculations of atomic properties with high accuracy for boron-like iron and other ions of astrophysical interest”*  
J. Ekman, P. Jönsson, S. Gustafsson, H. Hartman, R. du Rietz, G. Gaigalas, M. Godefroid and C. Froese Fischer  
11th International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas (ASOS11), Mons, Belgium, August 4-9, 2013.
- *“The ATSP2K and GRASP2K Multiconfiguration Atomic Structure Program Packages”*  
P. Jönsson, G. Gaigalas, M. Godefroid, J. Bieroń and C. Froese Fischer  
11th International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas (ASOS11), Mons, Belgium, August 4-9, 2013.
- *“Relativistic computations of the energies, wave functions and static multipole polarizabilities of hydrogen-like ions with the Lagrange-mesh method”*  
L. Filippin, D. Baye and M. Godefroid  
Groupe de contact F.N.R.S. “Atomes, Molécules et Radiation”, IASB, Brussels, Belgium, February 6, 2014.
- *“Accurate relativistic properties of hydrogenic atoms with the Lagrange-mesh method”*  
D. Baye, L. Filippin and M. Godefroid  
43th Conference of the European Group on Atomic Systems (EGAS), Lille, France, July 1-4, 2014.
- *“Calculations of the hyperfine constants of  $^{35}\text{Cl } 3p^4 4s^4 P$  and  $3p^4 4p^4 D$ ”*  
A. Touat, M. Nemouchi, T. Carette, and M. Godefroid

- 43th Conference of the European Group on Atomic Systems (EGAS), Lille, France, July 1-4, 2014.
- “*Accurate relativistic properties of hydrogenic atoms with the Lagrange-mesh method*”  
D. Baye, L. Filippin and M. Godefroid  
9th International Conference on Atomic and Molecular Data and Their Applications (ICAM-DATA 2014), Helmholtz Institute Jena and Friedrich Schiller University, Jena, Germany, September 21-25, 2014.
  - “*Isotope shift parameters of Al I  $3p - 4s$  and  $3p - 3d$  lines*”  
L. Filippin, J. Ekman, S. Fritzsche, M. Godefroid and P. Jönsson  
9th International Conference on Atomic and Molecular Data and Their Applications (ICAM-DATA 2014), Helmholtz Institute Jena and Friedrich Schiller University, Jena, Germany, September 21-25, 2014.
  - “*The Computational Atomic Structure Group; Code Development and Available Resources*”  
P. Jönsson, J. Bieroń, T. Brage, J. Ekman, C. Froese Fischer, G. Gaigalas, J. Grumer and M. Godefroid  
9th International Conference on Atomic and Molecular Data and Their Applications (ICAM-DATA 2014), Helmholtz Institute Jena and Friedrich Schiller University, Jena, Germany, September 21-25, 2014.
  - “*Atomic structure calculations with spectroscopic accuracy - Implications for laboratory work*”  
P. Jönsson, J. Ekman, C. Froese Fischer, G. Gaigalas, M. Godefroid, H. Hartman, and P. Rynkun  
9th International Conference on Atomic and Molecular Data and Their Applications (ICAM-DATA 2014), Helmholtz Institute Jena and Friedrich Schiller University, Jena, Germany, September 21-25, 2014.
  - “*Validation of Uncertainty Estimates of Calculated Transition Rates*”  
J. Ekman, M. Godefroid, H. Hartman, C. Froese Fischer, and P. Jönsson  
9th International Conference on Atomic and Molecular Data and Their Applications (ICAM-DATA 2014), Helmholtz Institute Jena and Friedrich Schiller University, Jena, Germany, September 21-25, 2014.
  - “*Relativistic two-photon decay rates of hydrogenic atoms with the Lagrange-mesh method*”  
L. Filippin, D. Baye, and M. Godefroid  
44th Conference of the European Group on Atomic Systems (EGAS), Riga, Latvia, July 14-17, 2015.
  - “*Isotope shift parameters in Al I for  $3p - 4d$  and  $3p - 3d$  lines*”  
L. Filippin, J. Ekman, S. Fritzsche, M. Godefroid and P. Jönsson  
44th Conference of the European Group on Atomic Systems (EGAS), Riga, Latvia, July 14-17, 2015.
  - “*Theoretical study of hyperfine structure of ground state in neutral Carbon*”  
P. Rynkun, G. Gaigalas, P. Jönsson, C. Froese Fischer and M. Godefroid  
44th Conference of the European Group on Atomic Systems (EGAS), Riga, Latvia, July 14-17, 2015.

- “*Relativistic Recoil Corrections to Mass Shifts in Neutral or Lowly-Charged Atomic Systems*”  
J. Li, M. Godefroid, P. Jönsson and J. Wang  
X International Workshop: Application of Lasers and Storage Devices in Atomic Nuclei Research, Poznań, Poland, May 16-19, 2016.
- “*Isotope shift factors in Zn I for the  $4s^2\ ^1S_0 - 4s4p\ ^3P_1^o$  and  $4s4p\ ^3P_2^o - 4s5s\ ^3S_1$  lines*”  
L. Filippin and M. Godefroid  
12th International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas (ASOS12), São Paulo, Brazil, July 4-7, 2016.
- “*The Computational Atomic Structure Group Code Development and Available Resources for Astrophysics and Plasma Physics*”  
J. Bieroń, T. Brage, J. Ekman, C. Froese Fischer, G. Gaigalas, M. Godefroid, I.P. Grant, J. Grumer, S. Gustafsson and P. Jönsson  
12th International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas (ASOS12), São Paulo, Brazil, July 4-7, 2016.
- “*High Precision Multiconfiguration Calculations using a Partitioned Correlation Function Interaction Approach*”  
P. Rynkun, P. Jönsson, G. Gaigalas, M. Godefroid and C. Froese Fischer  
12th International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas (ASOS12), São Paulo, Brazil, July 4-7, 2016.
- “*Relativistic Multiconfiguration Calculations with Spectroscopic Accuracy: B-like to P-like Iron*”  
J. Ekman, S. Gustafsson, P. Jönsson, G. Gaigalas, C. Froese Fischer and M. Godefroid  
12th International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas (ASOS12), São Paulo, Brazil, July 4-7, 2016.
- “*Theoretical Hyperfine Structures of excited levels in  $^{17}\text{O I}$  and  $^{19}\text{F I}$* ”  
M. Nemouchi, N. Aourir, M. Godefroid and P. Jönsson  
12th European Conference on Atoms Molecules and Photons (ECAMP12), Frankfurt, Germany, September 5-9, 2016.
- “*Strong relativity effect on the  $A_{3/2}$  hyperfine constant of  $2p^4(^3P)3p^4S$  fluorine atomic state*”  
N. Aourir, M. Nemouchi and M. Godefroid  
1st International Conference on Radiations and Applications (ICRA-2017), Algiers (Algeria), November 20-23, 2017.
- “*Ab initio calculations of hyperfine structures in chlorine atom*”  
A. Touat, M. Nemouchi and M. Godefroid  
1st International Conference on Radiations and Applications (ICRA-2017), Algiers (Algeria), November 20-23, 2017.
- “*Relativistic semi-empirical-core-potential calculations on  $\text{Ca}^+$ ,  $\text{Sr}^+$  and  $\text{Ba}^+$  with Lagrange meshes*”  
S. Schiffmann, L. Filippin, J. Dohet-Eraly, D. Baye and M. Godefroid  
Quantum Chemistry in Belgium : 13th Edition (QCB13), Brussels (Belgium), January 30, 2018.

- “*On the use of the Partition Correlation Function Interaction method for atomic properties*”  
S. Schiffmann, G. Gaigalas, M. Godefroid and P. Jönsson  
50th Anniversary Conference of the European Group on Atomic Systems (EGAS), Kraków, Poland, July 9-13, 2018.
- “*Large-scale multiconfiguration Dirac-Hartree-Fock and relativistic configuration interaction calculations of transition data for B-like S XII*”  
K. Wang, M. Godefroid, P. Jönsson, J. Ekman, C.Y. Zhang, R. Si, X.H. Zhao, C.Y. Chen, J. Yan  
50th Anniversary Conference of the European Group on Atomic Systems (EGAS), Krakow, Poland, July 9-13, 2018.
- “*Computational strategy for ab initio calculations in Th II*”  
K. Wang and M. Godefroid,  
EVEREST meeting (EOS project), ULB, Brussels, October 31, 2018.
- “*Computational Atomic Structure Developments with GRASP Towards Heavy Atoms and Ions of Astrophysical Interest*”  
J. Bieroń, T. Brage, C.Y. Chen, G. Del Zanna, J. Ekman, C. Froese Fischer, G. Gaigalas, H. Hartman, S. Gamrath, J. Li, M. Godefroid, P. Jönsson, P. Palmeri, A. Papoulia, P. Quinet, P. Rynkun, S. Schiffmann, R. Si, K. Wang and C.Y. Zhang  
13th European Conference on Atoms, Molecules and Photons, Florence, Italy, April 8-12, 2019.
- “*Systematical Calculations on Level Energies, Multipole Transition Rates and Lifetimes in  $3p^k$  Tungsten Ions and Shell Structures of Superheavy Elements Using Electron Localization Functions*”  
Chun Yu Zhang , Kai Wang, Michel Godefroid, Per Jönsson and Chong Yang Chen  
Joint ICTP-IAEA School on Atomic and Molecular Spectroscopy in Plasmas, Trieste, Italy, May 6-10, 2019.
- “*Accurate calculations of energy structures and radiation rates of L- and M-shell ions of astrophysics*”  
Kai Wang, Per Jönsson, Michel Godefroid, Ran Si, Chong Yang Chen and Jun Yan  
13th International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas (ASOS), Fudan U., Shanghai, China, June 23-27, 2019.
- “*On the use of natural orbitals to compute the hyperfine structure of neutral sodium*”  
Sacha Schiffmann, Michel Godefroid, Per Jönsson and Jörgen Ekman  
13th International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas (ASOS), Fudan U., Shanghai, China, June 23-27, 2019.
- “*Accurate Calculations of Rydberg states in C I-IV for Astrophysics*”  
Asimina Papoulia, Jörgen Ekman, Henrik Hartman, Wenxian Li, Stefan Gustafsson, Per Jönsson, Pavel Rynkun, Gediminas Gaigalas, Sacha Schiffman, Kai Wang and Michel Godefroid  
13th International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas (ASOS), Fudan U., Shanghai, China, June 23-27, 2019.
- “*Computational Atomic Structure Developments with GRASP Towards Heavy Atoms and Ions of Astrophysical Interest*”  
J. Bieroń, T. Brage, C.Y. Chen, G. Del Zanna, J. Ekman, C. Froese Fischer, G. Gaigalas,

H. Hartman, S. Gamrath, J. Li, M. Godefroid, P. Jönsson, P. Palmeri, A. Papoulia, P. Quinet, P. Rynkun, S. Schiffmann, R. Si, K. Wang and C.Y. Zhang  
13th International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas (ASOS), Fudan U., Shanghai, China, June 23-27, 2019.

- “*Natural orbitals in multiconfiguration calculations of hyperfine structures*”  
S. Schiffmann and M. Godefroid  
7th CompAS meeting, Brussels, Belgium, June 17, 2019.
- “*Ab initio calculations of Th II transition data of cosmochronological interest*”  
K. Wang and M. Godefroid  
7th CompAS meeting, Brussels, Belgium, June 17, 2019.
- “*MultiConfiguration Dirac-Hartree-Fock calculations of electron-nucleus interactions*”  
J. Bieroń, J. Ekman, C. Froese Fischer, S. Fritzsche, G. Gaigalas, M. Godefroid, I.P. Grant, P. Indelicato, P. Jönsson and P. Pyykkö  
Solvay Workshop in honour of Michel Godefroid “*New Frontiers in Atomic, Nuclear, Plasma and Astrophysics*”, Brussels, November 25-27, 2019.
- “*Theoretical Calculations of Oscillator Strengths for Radiative Transitions of Cosmochronological Interest in Singly Ionized Thorium (Th II)*”  
S. Gamrath, P. Palmeri, M. Godefroid and P. Quinet  
Solvay Workshop in honour of Michel Godefroid “*New Frontiers in Atomic, Nuclear, Plasma and Astrophysics*”, Brussels, November 25-27, 2019.
- “*Weak Correlation and Strong Relativistic Effects on the Hyperfine Interaction in Fluorine*”  
M. Nemouchi, F.Z. Boualili and M. Godefroid  
Solvay Workshop in honour of Michel Godefroid “*New Frontiers in Atomic, Nuclear, Plasma and Astrophysics*”, Brussels, November 25-27, 2019.
- “*Determination of the Sn electric field gradient*”  
S. Schiffmann, A. Papoulia, J. Bieroń, J. Ekman, G. Gaigalas, M. Godefroid and P. Jönsson  
Solvay Workshop in honour of Michel Godefroid “*New Frontiers in Atomic, Nuclear, Plasma and Astrophysics*”, Brussels, November 25-27, 2019.
- “*Accurate calculations of energy structures and radiation rates of L- and M-shell ions for astrophysics*”  
K. Wang, P. Jönsson, M. Godefroid, G. Del Zanna, R. Si, C.Y. Chen, and J. Yang  
Solvay Workshop in honour of Michel Godefroid “*New Frontiers in Atomic, Nuclear, Plasma and Astrophysics*”, Brussels, November 25-27, 2019.

### 5.2.3. Invited talks

#### – in conferences and workshops

- “*Core-valence correlation in nominal one- and two- electron systems.*”  
Symposium on “Trends in Atomic Structures Calculations and Spectroscopy”, Lund (Sweden), March 3-4, 1993.

- *“Calculs de structures atomiques.”*  
Troisième cycle interuniversitaire “Physique atomique et moléculaire”, Université Libre de Bruxelles (Belgium), April 29, 1994.
- *“Recent Progresses in transition probability calculations.”*  
Symposium on “Large-Scale Atomic Calculations; Applications to Astrophysics and Nuclear Structure”, Lund (Sweden), January 18-19, 1995.
- *“MCHF calculations for spectroscopic properties in light atoms.”*  
Fifth International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas, Meudon (France), August 28-31, 1995.
- *“Ab initio calculations of spectroscopic properties in light atoms.”*  
Mini-symposium on “Quantum Chemistry in Belgium: Current Aspects and Trends for the Future.”, Namur (Belgium), October 26-27, 1995.
- *“Large scale ab initio calculations of electronic properties of field-free atoms.”*  
Workshop on “Atoms and Molecules in Strong External Fields”, Bad Honnef (Germany), April 7-11, 1997.
- *“Atomic structure variational calculations in spectroscopy.”*  
Plenary Talk of the 29th European Group of Atomic Spectroscopy (EGAS) Conference, Berlin (Germany), July 15-18, 1997.
- *“Calculs variationnels de propriétés spectroscopiques dans les atomes.”*  
Réunion annuelle de l’Ecole doctorale ULB *Photomat*, Seneffe (Belgium), November 30, 2000.
- *“On the role of atomic structure calculations in physics.”*  
Plenary Talk of the 8th Iberian Joint Meeting on Atomic and Molecular Physics (IBER 2006), Aranjuez (Spain), August 31 - September 4, 2006.
- *“Dirac-Fock Calculations with the MCDFGME Package.”*  
Iron Project Meeting on “New Directions in Atomic Data Production for Fusion and Astrophysical Plasmas”, in honour of Prof. Michael J. Seaton, founder of the Opacity Project and the Iron Project, Mons (Belgium), August 2-4, 2007.
- *“The full relativistic approach: a fatal attraction.”*  
Colloquium on “Frontiers in Relativistic Multiconfiguration Calculations”, Lund, (Sweden), August 6-7, 2007.
- *“Calculations of atomic structures in light systems: a non-relativistic or a relativistic approach ?”*  
Plenary Talk of the 9th Iberian Joint Meeting on Atomic and Molecular Physics (IBER 2008), Capuchos (Portugal), September 7-9, 2008.
- *“The All-electron Variational Approach: Challenges and Perspectives in Atomic Physics.”*  
Talk given at the Microsymposium “Atoms Revisited” (FWO Scientific Research Network on Quantum Chemistry: Fundamental and Applied Aspects of Density Functional Theory), Brussels (Belgium), October 29, 2009.



- *“The biorthogonal pair correlation method.”*  
M. Godefroid and P. Jönsson  
GRASP2K satellite meeting of the Seventh International Conference on Atomic and Molecular Data and Their Applications (ICAMDATA 2010), Vilnius (Lithuania), September 19-20, 2010.
- *“Hyperfine structures and Isotope shifts.”*,  
GRASP2K satellite meeting of the Seventh International Conference on Atomic and Molecular Data and Their Applications (ICAMDATA 2010), Vilnius (Lithuania), September 19-20, 2010.
- *“Ab initio calculation of atomic electron affinities, isotope shifts and hyperfine structures.”*,  
Plenary talk at the "11th Iberian Joint Meeting on Atomic and Molecular Physics" (IBER2011), Coimbra, Portugal, June 19-22, 2011.
- *“Correlation models in the multiconfiguration Hartree-Fock approach.”*,  
EU-supported IP-programme (“Intensive Programme”), Lund, Sweden, September 19-29, 2011.
- *“Accurate Transition Probabilities from Large-scale Multiconfiguration Calculations.”*  
J. Bieroń, T. Brage, C. Froese Fischer, G. Gaigalas, M. Godefroid and P. Jönsson  
Eight International Conference on Atomic and Molecular Data and Their Applications (ICAMDATA-8), NIST, Gaithersburg, MD, USA, September 30 - October 4, 2012.
- *“Studies of electron correlation: current status and future perspectives.”*  
Workshop on “Computational Atomic Physics”, Northwest Normal University, Lanzhou, (China), July 31, 2013.
- *“Toward calculations of spectroscopic accuracy in atomic physics.”*  
Symposium in Honour of Paul-Henri Heenen, ULB, Brussels, October 31, 2013.
- *“Ab initio atomic structure calculations.”*  
7th workshop of the “International initiative on x-ray fundamental parameters”, LCPMR, U. Pierre et Marie Curie, Paris, France, March 25-26, 2014.
- *“Theoretical electronic parameters of isotope shifts and hyperfine structures: impact and current limitations.”*  
9th International Conference on Atomic and Molecular Data and Their Applications (ICAMDATA 2014), Helmholtz Institute Jena and Friedrich Schiller University, Jena, Germany, September 21-25, 2014.
- *“The interplay between atomic and nuclear physics to study exotic nuclei”*  
M. Godefroid, S. Fritzsche, G. Neyens, W. Nörtershäuser  
ECT\* workshop, European Centre for Theoretical Studies in nuclear physics and related areas, Trento (Italy), August 24-27, 2015 ( <http://www.ectstar.eu/node/1224> ).
- *“Relativistic calculations of isotope shift and hyperfine structure electronic factors”*  
4th CompAS meeting - Future code development in response to challenges in atomic physics, nuclear physics, astrophysics and plasma physics, Malmö and Lund, Sweden, June 1-4, 2016.
- *“Computational Atomic Structures for Isotope Shift and Hyperfine Structure Electronic Factors”*  
12th International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas (ASOS12), São Paulo, Brazil, July 4-7, 2016.

- “*Extra multiconfiguration calculations for Extra results*”  
1st International Workshop on Exotic Transitions (ExTra), Institute of Modern Physics, Fudan University, Shanghai, P.R. China, October 26-27, 2017.
- “*On the role of computational atomic structures in atomic spectroscopy, astrophysics and nuclear physics.*”  
Plenary talk at the 1st International Conference on Radiations and Applications (ICRA-2017), Algiers (Algeria), November 20-23, 2017.
- “*The cobbled road to heavy element atomic structures*”  
6th CompAS meeting, Malmö and Lund, Sweden, June 17, 2018

– **Seminars**

- “*MCHF calculations in the Breit-Pauli approximation. Application to the nitrogen sequence.*”  
Fysiska Institutionen, Lunds Universitet, Sweden, February 2, 1983.
- “*Forbidden transitions in the nitrogen sequence.*”  
Zeeman Laboratorium der Universiteit van Amsterdam, Amsterdam, The Netherlands, June 21, 1983.
- “*Intraconfiguration forbidden transitions in the nitrogen and phosphorous sequences.*”  
Zeeman Laboratorium der Universiteit van Amsterdam, Amsterdam, The Netherlands, May 24, 1984.
- “*Violations of selection rules of radiative transitions in multi-ionized atoms.*”  
Séminaires de Physique Atomique et Moléculaire, FYAM, Université Catholique de Louvain, Louvain-la-Neuve, December 12, 1984.
- “*Ab initio calculations of atomic structures.*”  
Réunion de contact avec l’Institut d’Aéronomie Spatiale, Université Libre de Bruxelles, April 25, 1985.
- “*Inversion of the fractional parentage coefficient matrix.*”  
Zeeman Laboratorium der Universiteit van Amsterdam, Amsterdam, The Netherlands, September 23, 1985.
- “*Calculs ab initio de déplacements isotopiques dans les atomes alcalino-terreux.*”  
Physique Nucléaire Théorique et Physique Mathématique, U.L.B., January 24, 1990.
- “*Progress in MCHF Atomic Structure Calculations.*”  
Atomic Physics Division Seminar, National Institute of Standards and Technology, Gaithersburg, Maryland, USA, November 14, 1997.
- “*L’approche multiconfigurationnelle Hartree-Fock en spectroscopie: méthode et applications.*”  
Séminaire du Laboratoire Aimé-Cotton, Orsay, Paris (France), June 11, 1998.
- “*Recent advances in the calculation of oscillator strengths.*”  
Arbeitsgruppe Atomphysik und Angewandte Elektronenphysik, Universität Kaiserslautern, Kaiserslautern (Germany), October 23, 1998.

- “Recent advances in the calculation of oscillator strengths.”  
Séminaire conjoint du Bureau de l’European Group of Atomic Spectroscopy (EPS) et de l’U.F.R. Sciences de la Matière, Université de Provence, Marseille, France, November 27, 1998.
- “Sur le rôle des calculs *ab initio* en spectroscopie atomique.”  
Séminaire du Laboratoire de Photophysique Moléculaire, Université de Paris-Sud, Orsay, 18 février 2000.
- “The multiconfiguration Hartree-Fock description of atomic systems: I. Optimization strategies, successful applications and current limits.”  
Division of Atomic and Molecular Physics, Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, Wuhan 430071, China, May 22, 2011.
- “The multiconfiguration Hartree-Fock description of atomic systems: II. Computational developments, challenges and perspectives.”  
Division of Atomic and Molecular Physics, Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, Wuhan 430071, China, May 23, 2011.
- “The multiconfiguration Hartree-Fock description of atomic systems: I. Optimization strategies, successful applications and current limits.”  
Department of Physics, Northwest Normal University, Lanzhou 730070, China, May 27, 2011.
- “The multiconfiguration Hartree-Fock description of atomic systems: II. Computational developments, challenges and perspectives.”  
Department of Physics, Northwest Normal University, Lanzhou 730070, China, May 28, 2011.
- “The multiconfiguration Hartree-Fock description of atomic systems: I. Optimization strategies, successful applications and current limits.”  
LCP, Institute of Applied Physics and Computational Mathematics, Beijing 100088, China  
Center for Applied Physics and Technology, Peking University, Beijing 100871, China, May 30, 2011.
- “The multiconfiguration Hartree-Fock description of atomic systems: II. Computational developments, challenges and perspectives.”  
LCP, Institute of Applied Physics and Computational Mathematics, Beijing 100088, China  
Center for Applied Physics and Technology, Peking University, Beijing 100871, China, June 1, 2011.
- “Ab initio calculations of hyperfine structure and isotope shift electronic parameters: a challenge in atomic physics.”  
Instituut voor Kern- en Stralingsfysica, KUL, Leuven, June 19, 2012.
- “Ab initio calculations of isotope shifts and hyperfine structures.”  
BriX-IAP workshop 2013, Oostende, March 25-26, 2013.
- “Atomic structure close to the nucleus. I. Hyperfine structures and isotope shift electronic parameters.”  
Instituut voor Kern- en Stralingsfysica, KUL, Leuven, November 15, 2013.
- “Accurate solution of the Dirac equation on Laguerre meshes.”  
Materials Science and Applied Mathematics, Malmö University, Sweden, February 14th, 2014.

- “*Computational Atomic Structures for Isotope Shift and Hyperfine Electronic Factors.*”  
Institute of Applied Physics and Computational Mathematics (IAPCM), Beijing, China, November 3, 2016.
- “*The cobbled road to heavy element atomic structures.*”  
Kick-off meeting of the EOS EVEREST collaboration, Leuven (KUL), Belgium, April 23, 2018.
- “*Kai WANG, a post-doc with the right expertise.*”  
EVEREST meeting (EOS project), ULB, Brussels, October 31, 2018.
- “*Introductory talk on the goals of the EAF-HA workshop.*”  
EOS Workshop on Electronic Atomic Factors and Hyperfine Anomalies for Nuclear Physics, Brussels (ULB), April, 15, 2019.
- “*Atomic Physics aspects: What are the limits of the MCHDF approach in the high-Z region?*”  
Virtual EVEREST meeting (EOS project), Brussels (Zoom meeting), November 18, 2020.

#### 5.2.4. Member of scientific committees and institutions

- Membre de la Société Belge de Physique (SBP).
- Membre de la Société Royale de Chimie (SRC).
- Membre de la Société Française de Physique (SFP) - 2005-2006.
- Membre de l’European Physical Society (EPS).

#### 5.2.5. Editorial board and referee tasks

Regular referee for the following international scientific journals

- “*Journal of Physics A : Mathematical and General*”,
- “*Journal of Physics B : Atomic and Molecular Physics*”,
- “*Physical Review A*”,
- “*Journal of Physics: Condensed Matter*”,
- “*Europhysics News*”,
- “*Journal of Computational Physics*”,
- “*Physics Letters A*”,
- “*Computer Physics Communications*”,
- “*The European Physical Journal D*”,
- “*Atomic Data and Nuclear Data Tables*”,
- “*Journal Astronomy & Astrophysics*”,
- “*Few-Body Systems*” (Springer Wien),
- “*International Journal of Quantum Chemistry*”

## 5.2.6. External reviewer

### • Jurys

- membre de divers jurys pour l’octroi de bourses de voyage de la Communauté française de Belgique: P. Quinet (1990), N. Vaeck (1991), G. Van Meulebeke (1993)
- Répondant pour l’attribution de Prix Scientifique SBP, etc..
- commissaire ou rapporteur des mémoires de licence en Faculté des Sciences de l’ULB de G. Bihain (physique, 2002), N. Rinskopf (chimie, 2002), B. Gherdaoui (chimie, 2002), S. Robert (physique, 2004), K. Didriche (chimie, 2004), Y. Segers (chimie, 2006), F. Yasser (chimie, 2006), S. Moradi (physique, 2006), F. De Crane (physique, 2007), A. Walter (physique, 2007), R. Oueslati (physique, 2012), L. Santos (chimie, 2013), M. Kas (chimie, 2013), J. Bulens (physique, 2013)
- lecteur des TFE d’ingénieur physicien en Faculté des Sciences Appliquées de l’ULB de G. Goldstein (2003), R. Sébastien (2004), P.-H. Schippers (2004), S. Benayad (2004), Q. Notte (2005) A. Progneaux (2006), B. Gonze (2007), X. De Ghellinck D’Elseghem Vaernewijck (2008), S. Dubois (2010), J. Ghislain (2010), J. Evrard (2013), T. Van der Vorst (2016)
- membre extérieur des jurys de mémoires de licence de T. Gorlia (Physique, UMH, 1989), P. Palmeri (Physique, UMH, 1992), A. Borgoo (Vakgroep Natuurkunde, VUB, 2004), V. Fivet (Physique, UMH, 2005), J. Gillet (Physique, ULg, 2007), J. Deprince (Physique, UMons, 2016)
- membre des jurys de thèses de doctorat de B. Coveliers (U.C.L., 1992), E.H. Kerrami (U.L.B., 1993), P. Quinet (U. Mons-Hainaut, 1993), Oualim El Mostafa (U.C.L., 1995), A. Boukour (U.L.B., 1995), J.-M. Depaepe (U.L.B., 1995), N. Kylstra (U.L.B., 1996), P. Palmeri (U. Mons-Hainaut, 1996), L. Wauters (ULB, 1997), A.C. Vandaele (ULB, 1997), S. Van Eck (ULB, 1999), M. Hesse (ULB, Sc. Appl., 2001), N. Zitane (ULB, 2002), B. Timmermans (ULB, 2002), R. Blasius (ULB, 2003), O. Lentzen (ULB, 2003), A. Etoc (ULB, 2003), B. Debecker (ULB, 2003), P. Capel (ULB, Sc. Appl., 2004), M. Esposito (ULB, 2004), R. El Hachtouki (ULB, 2004), C. Depiesse (ULB, 2005), J.-C. Lambert (ULB, Sc. Appl., 2006), X. Hutsebaut (ULB, Sc. Appl., 2006), J. Martin (ULg, 2006), N. Rinskopf (ULB, 2007), G. Goldstein (ULB, Sc. Appl., 2007), J. Préat (FUNDP, 2008), T. Deleporte (ULB, 2008), S. Robert (ULB, 2009), N. Theys (ULB, Sc. Appl., 2010), J. Loreau (ULB, 2010), A. Mahieux (ULB, Sc. Appl., 2011), I. De Smedts (ULB, 2011), S. Krins (ULg, 2011), A. Damman (ULB, 2011), B. Amyay (ULB, 2012), B. Bolsée (ULB, Sc. Appl., 2012), X. De Ghellinck D’Elseghem Vaernewijck (ULB, Sc. Appl. 2012), J. Dohet-Eraly (ULB, Sc. Appl. 2013), T. Druet (ULB, Sc. Appl. 2013), P. Neyskens (ULB, 2013), B. Mignolet (Ulg, 2014), Y. Willame (ULB, IASB, 2015), N. Huet (ULg, 2015), D. Golebiowski (ULB, 2015), W. Ryssens (ULB, 2016), L. Santos (ULB, 2017), S.V.M. Lambeets (ULB, 2018), T. Launoy (ULB, 2018), K. Kravchenko (ULB, 2019), S. Doniki (ULB, 2019), Shreeya Shetye (ULB, 2019).
- Official Opponent in the public examination of the doctoral thesis of Grzegorz Miecznik, University of Lund, Sweden (1993)
- Rapporteur extérieur du jury de thèse de G. Verbockhaven, Universiteit van Amsterdam, The Netherlands (2000)
- Membre de la commission d’audition de la défense publique de la thèse d’agrégation de l’enseignement supérieur de F. Remacle, Université de Liège, Belgium (2001)

- Rapporteur extérieur de la commission d’examen de la thèse de F. Goldfarb, Université Paris XI-Orsay, France (2003)
- Membre des jurys de thèses d’agrégation de l’enseignement supérieur de A. Jorissen (ULB, 2002), Jean Vander Auwera (ULB, 2004)
- Membre du Jury de thèse de doctorat d’Etat de M. Nemouchi, Université des Sciences et de la Technologie Houari Boumédienne (USTHB), Alger, Algérie (Septembre 2004)
- Rapporteur extérieur de la commission d’examen de la thèse de L. Sagui, Université Paris XI-Orsay, France (2005)
- Rapporteur extérieur de la commission d’examen de la thèse de G. Pasin, Montpellier II, France (2008)
- Membre du Jury HDR (Habilitation à diriger les recherches) de D. Jacquemin, Université Pierre et Marie Curie, Paris, France (2009)
- Membre du Jury de thèse de doctorat de P. Amaro (examinateur), Université Pierre et Marie Curie et Universidade Nova de Lisboa, Lisboa, Portugal (2011)
- Membre du Jury de thèse de doctorat de Colin S. Harte, University College Dublin (UCD), School of Physics, Dublin, UK (2012)
- Official Opponent in the public examination of the doctoral thesis of Laleh Safari, MSc, University of Oulu, Finland (December 2013)
- Rapporteur extérieur de la commission d’examen de la thèse de D. Breteau, Université Paris XI-Orsay, France (2016)
- Membre du Jury de thèse de doctorat de M. Génévriez, Université Catholique de Louvain (UCL), Institute of Condensed Matter and Nanosciences, Louvain-la-Neuve (2017)
- Membre du Jury de thèse de doctorat de Bian Guojie (Rapporteur), Université Pierre et Marie Curie, LKB, Paris, France (2019)

- **Assessment / Expertise**

- Evaluation de propositions de recherche dans le cadre du programme NATO “*Collaborative Research Grants*”.
- Evaluation de propositions de recherches soumises au *U.S. Department of Energy*.
- Membre et rapporteur du 16ème jury F.R.I.A. “Chimie-Physique” (1998-2015)
- Membre de la 5ème Commission scientifique “*Chimie Physique, Etat solide*” du Fonds National de la Recherche Scientifique (2000-2009)
- Lid van de “*Fysicochemie*” Commissie (E4) van het Fonds voor Wetenschappelijk Onderzoek - Vlaanderen (2000-2009)
- Membre de la Commission de qualification de “*Chimie minérale et organique*” du Fonds National de la Recherche Scientifique (2000-2009)
- Expert étranger pour le recrutement de Professeurs associés à l’Universidade de Lisboa, Portugal (mai 2013).

### 5.2.7. Other scientific activities

#### • National and international collaborations

- Prof. T. Bastin, Spectroscopie atomique et Physique des Atomes Froids, ULiège, Liège, Belgium.
- Prof. J. Bauche, Laboratoire Aimé Cotton, Bât. 505, CNRS II, 91405 Orsay, France.
- Prof. D. Baye, Physique Nucléaire et Physique quantique, ULB, Brussels, Belgium.
- Prof. C. Blondel, Laboratoire Aimé Cotton, Bât. 505, CNRS II, 91405 Orsay, France.
- Prof. K.L. Bell, Department of Applied Mathematics, Queen’s University of Belfast, Northern Ireland.
- Dr. E. Biémont, Institut d’Astrophysique, Université de Liège, Belgique.
- Prof. J. Bieroń, Instytut Fizyki im. Mariana Smoluchowskiego, Uniwersytet Jagielloński, Kraków, Poland.
- Dr. T. Brage, Lund Universitet, Department of Physics, S-221 00 Lund.
- Prof. C. Delsart, Laboratoire Aimé Cotton, Bât. 505, CNRS II, 91405 Orsay, France.
- Prof. J. Ekman, Group for Materials Science and Applied Mathematics, Malmö University, S-20506 Malmö, Sweden.
- Prof. S. Fritzsche, Helmholtz-Institut Jena, Jena, Germany.
- Prof. C. Froese Fischer, Computer Science Department, Department of Computer Science, University of British Columbia, Vancouver, Canada
- Dr. G. Gaigalas, Institute of Theoretical Physics and Astronomy, Vilnius, Lithuania.
- Prof. J.E. Hansen, Zeeman Laboratorium, Universiteit van Amsterdam, The Netherlands.
- Prof. P.-H. Heenen, Physique Nucléaire et Physique quantique, ULB, Brussels, Belgium.
- Prof. A. Hibbert, Department of Applied Mathematics, Queen’s University of Belfast, Northern Ireland.
- Prof. J.T. Hougen, Molecular Physics Division, National Institute of Standards and Technology, Gaithersburg, MD 20899, U.S.A.
- Prof. P. Indelicato, Laboratoire Kastler Brossel Ecole Normale Supérieure et Université Pierre et Marie Curie, Jussieu, Paris, France.
- Dr. J.W.C. Johns, National Research Council Canada, Herzbergh Institute of Astrophysics, Ottawa, Canada.
- Prof. P. Jönsson, Nature, Environment, Society, Malmö University, Malmö, Sweden.
- Prof. B.R. Judd, Department of Physics and Astronomy, The Johns Hopkins University, Baltimore, MD 21218, U.S.A.
- Dr. A.R.W. Mc Kellar, National Research Council Canada, Herzbergh Institute of Astrophysics, Ottawa, Canada.
- Dr. I Kleiner, Laboratoire Interuniversitaire des Systèmes Atmosphériques (LISA), Créteil, France.
- Dr. J. Li, Data Center for High Energy Density Physics, Institute of Applied Physics and Computational Mathematics, Beijing 100088, China.

- Dr. P.Å. Malmqvist, Theoretical Chemistry, Chemical Centre, University of Lund, Sweden.
- Profs I. Martinson and S.G. Johansson, Department of Physics, University of Lund, Sweden.
- Prof. J.P. Marques, Faculdade de Ciências da Universidade de Lisboa, Lisboa, Portugal.
- Prof. M. Nemouchi, Université des Sciences et de la Technologie Houari-Boumediène (USTHB), Alger, Algérie.
- Prof. G. Neyens, Institute for Nuclear and Radiation Physics, KULeuven, Leuven, Belgium.
- Dr. J. Olsen, Theoretical Chemistry, Aarhus University, Aarhus, Denmark.
- Dr. P. Palmeri, Physique Atomique et Astrophysique, UMons, Mons, Belgium
- Dr. J.C. Pickering, Blackett Laboratory, Imperial College, London, UK.
- Dr. P. Quinet, Physique Atomique et Astrophysique, UMons, Mons, Belgium
- Prof J.P. Santos, Departamento de Física, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, Lisboa, Portugal.
- Dr. D. Sundholm, Department of Chemistry, University of Helsinki, Finland.
- Prof. P. Van Duppen, Institute for Nuclear and Radiation Physics, KULeuven, Leuven, Belgium.
- Prof. S. Van Eck, Institute of Astronomy and Astrophysics , ULB, Brussels, Belgium.

• **Participation to national scientific meetings**

- Réunions de la Société Royale de Chimie de Belgique (SRC)
 

Brussels	March 25–26, 1976	U.L.B.
Namur	September 26, 2002	F.U.N.D.P.
- Réunions du groupe de contact FNRS “Cinétique Chimique en Phase Gazeuse, Réactions en Phase Gazeuse, Applications des lasers.”
 

Heverlee, Leuven	April 5, 1979	K.U.L.
Louvain-la-Neuve	March 30, 1982	U.C.L.
- Réunions du groupe de contact FNRS “Etude des Fonctions d’Onde Atomiques et Moléculaires” :
 

Bruxelles	February 11, 1975	U.L.B.
Liège	November 18, 1975	U.Lg.
Louvain-la-Neuve	June 2, 1976	U.C.L.
Namur	January 27, 1978	F.N.D.P.
Namur	February 9, 1983	F.N.D.P.
Bruxelles	December 10, 1984	U.L.B.
Namur	September 8, 1986	F.N.D.P.



- Réunions du groupe de contact FNRS “Atoms, Molecules and Radiation” :
 

Bruxelles	March 16, 1990	U.L.B.
Liège	October 31, 1990	U.Lg.
Gand	May 23, 1991	RUG.
Antwerpen	November 23, 1991	R.U.C.A.
Bruxelles	October 20, 1997	U.L.B.
Mons	April 7, 2000	U.M.H.
Bruxelles	November 28, 2003	U.L.B.
Liège	December 10, 2004	U.Lg.
Mons	November 17, 2005	U.M.H.
Namur	December 8, 2006	FUNDP
Louvain-la-Neuve	December 20, 2007	U.C.L.
Mons	October 10, 2008	U.M.H.
Bruxelles	October 13, 2009	U.L.B.
  
- “Quantum Chemistry in Belgium” meetings:
 

Leuven	September, 1996	KUL
Brussels	October 9, 1997	ULB
Ghent	November 23, 1999	RUG
Mons	January 27, 2006	UMH
Hasselt	February 4, 2008	UHasselt
Brussels	January 29, 2010	ULB
  
- Deuxième Ecole Internationale Belge de Chimie Physique Moléculaire “Les Méthodes et les Applications de la Chimie Quantique.”, Louvain-la-Neuve, U.C.L., May 20–June 2, 1979.
- Colloques Scientifiques relatifs au Projet d’Action de Recherche Concertée Interuniversitaire : Recherches en Physique Atomique et Moléculaire :
 

Liège	January 10, 1982	U.Lg.
Bruxelles	February 8, 1983	U.L.B.
Louvain-la-Neuve	February 2, 1984	U.C.L.
Liège	March 21, 1985	U.Lg.
  
- FNRS-NWFO Seminar on Super Computers, FNRS, Bruxelles, April 26–27, 1983.
- Initiation à l’utilisation des ordinateurs vectoriels, 3ème Cycle Interuniversitaire du FNRS, U.C.L., Louvain-la-Neuve, October 21–25, 1985.
- Workshop on “The use of supercomputers in Theoretical Sciences”:
 

Antwerp	December 12, 1985	U.I.A.
Antwerp	June 9, 1988	U.I.A.
  
- Réunions du groupe de contact du FNRS “Physique des Ions Lourds et de la Fission”:
 

Bruxelles	December 8, 1983	U.L.B.
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- 3ème Cycle Interuniversitaire en Physique Nucléaire sous l’égide du FNRS “L’approximation de particules indépendantes et l’étude des propriétés nucléaires statiques et dynamiques.” par P. Quentin, U.L.B., December 1983.

- Réunions du groupe de contact du FNRS “High Resolution Molecular Spectroscopy”:
 

Bruxelles	February 7, 1986	U.L.B.
Louvain-la-Neuve	January 30, 1987	U.C.L.
Liège	March 18, 1988	U.Lg.
Bruxelles	April 18, 1989	I.R.M.
Namur	May 10, 1990	F.N.D.P.
Louvain-la-Neuve	June 3, 1991	U.C.L.
Bruxelles	December 1, 1992	U.L.B.
Bruxelles	November 8, 2002	U.L.B.
- Réunions des Groupes de Spectroscopie Moléculaire PhLAM-LCPM:
 

Bruxelles	April 3, 1998	U.L.B.
Lille	March 19, 1999	U.S.T.L.
- “Computational Science Event”, IBM International Education Center, La Hulpe, October 23, 1986.
- “From Small to Large Chemical Systems. Theory, Computer simulations and experimental verifications.” Lectures and workshop given by Professor E. Clementi, Chaire Francqui U.L.B., 1986.
- “First SCCFF Users Group Meeting”, F.N.D.P., Namur, October 5, 1987.
- Réunion de la Société Belge de Physique (S.B.P.) :
 

Namur	May 26–27, 1988	F.N.D.P.
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- Workshop “Frontiers in Atomic Structure Calculations and Spectroscopy.”, Department of Physics, Lund (Sweden), May 24–25, 1988.
- Réunion du groupe de contact du FNRS “Physique Atmosphérique et Aéronomie”:
 

Liège	February 10, 1989	U.Lg.
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- Cours CRAY : “Architecture and Unicos System Usage”, G. Carnesecchi, U.L.B., February 28 – March 3, 1989.
- Cours CRAY : “Compiler CFT77”, C. Thomas, U.L.B., March 20–24, 1989.
- “La Physique nucléaire des années 1990”, Colloque en hommage au Professeur M. Demeur, U.L.B., March 9, 1989.
- 3ème Cycle Interuniversitaire FNRS “Physique Atomique et Moléculaire”
 

Liège	May 6-7, 1991	U.Lg.
Wegimont	January 20-24, 1992	(Domaine de)
Louvain-la-Neuve	April 23, 1993	U.C.L.
- “Large Scale Computations in Quantum Chemistry and Physics: Present Status and Perspectives.”, Advanced Lectures and Fifth SCF Users Group Meeting, FNDP, Namur, June 1-5, 1992.
- “Journée Chimie 1992”, U.L.B., Bruxelles, March 9, 1992.
- “XXth International Solvay Conference in Chemistry”, U.L.B., Bruxelles, November 28 - December 2, 1995.
- “DFT Symposium: A bridge between Chemistry and Physics”, V.U.B., Bruxelles, May 14-15, 1998.

- Réunions de l’Ecole doctorale ULB “*Photomat*”
 

Bruxelles, Belgium	November 22-26, 1999	ULB
Seneffe, Belgium	November 30, 2000	CDE
Seneffe, Belgium	March 28, 2002	CDE
  
- Réunions de l’Ecole Doctorale Thématique du FNRS “*METAMORPHOSE*”
 

Louvain-la-Neuve	January 26, 2007	UCL
Liège, Belgium	January 30, 2008	ULg
Mons, Belgium	January 30, 2009	UMons
Bruxelles, Belgium	January 29, 2010	ULB
Namur, Belgium	February 4, 2011	ULB
  
- Meetings of the “FWO Scientific Research Network on Quantum Chemistry: Fundamental and Applied Aspects of Density Functional Theory”
 

Brussels, Belgium	June 12, 2007	VUB
Brussels, Belgium	October 29, 2009	VUB
  
- “The Belgian Research Initiative on eXotic nuclei for atomic, nuclear and astrophysics studies” (BriX) workshops
 

Heverlee, Belgium	June 25, 2012	IKS, KUL
Oostende, Belgium	March 25-26, 2013	Thermae Palace
Brussels, Belgium	December 2, 2013	PNPQ, ULB
Gent, Belgium	May 7-8, 2014	Het Pand, UGhent
Mol, Belgium	November 26, 2014	BNRC, Mol
Liège, Belgium	May 27-28, 2015	ULg
Heverlee, Belgium	November 23, 2015	IKS, KUL
Mol, Belgium	May 9-10, 2016	SCK-CEN
  
- “Excellence of Science (EOS) workshops on “Heavy Element Research for Nuclear, Atomic and Astrophysics Studies” (EVEREST)
 

Heverlee, Belgium	April 23, 2018	IKS, KUL
Brussels, Belgium	October 31, 2018	ULB
Heverlee, Belgium	April 17, 2019	IKS, KUL
Brussels, Belgium	October 7, 2019	ULB
Belgium	November 18, 2020	Virtual Zoom

• **International scientific meetings, without communication**

- “CCP2 Intermediate Energy Meeting”, Queen’s University of Belfast, Belfast, Northern Ireland, January 14, 1999.
- “European Group of Atomic Spectroscopy (EGAS) Board meetings”
 

Marseille, France	November 27-28, 1998	Université de Provence
Marseille, France	July 5, 1999	Université de Provence
Birmingham, UK	November 26-27, 1999	University of Birmingham
Vilnius, Lithuanie	July 4, 2000	SITPA

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|-------------------|----------------------|-------------------------------|
| Marseille, France | November 24-25, 2000 | Université de Provence        |
| Berlin, Allemagne | April 2, 2001        | Technische Universität Berlin |
| Marseille, France | November 23-24, 2001 | Université de Provence        |
| Sofia, Bulgaria   | July 12, 2002        | Bulgarian Academy of Sciences |
| Brussels, Belgium | July 14, 2003        | ULB                           |
| Paris, France     | November 21-22, 2003 | Laboratoire Kastler-Brossel   |
| Rennes, France    | July 5th, 2004       | Europôle                      |
- Symposium In honour of Professor Indrek Martinson: “Spectroscopy of Highly Charged Ions: Not Just the Light at the End of an Accelerator”, Lund, Sweden, September 25-27, 2003.
  - “10th International Conference on the Applications of Density Functional Theory in Chemistry and Physics”, VUB, Brussels, Belgium, September 7-12, 2003.
  - “8th EPS Conference on Atomic and Molecular Physics”, Rennes, France, July 6-10, 2004.
  - Solvay workshop on “Bits, Quanta and Complex Systems”, ULB, Brussels, Avril 30 - May 3, 2008.
  - Solvay workshop “Molecular Complexes in our Atmosphere and Beyond”, ULB, Brussels, April 20-23, 2010.
  - Solvay workshop “Atomic and Molecular Collision Mechanisms”, ULB, Brussels, March 30 - April 2, 2015.
  - Solvay workshop “Conceptual Quantum Chemistry - Present Aspects and Challenges for the Future”, ULB, Brussels, April 4-8, 2016.
  - Workshop “High Resolution Molecular Analysis and Spectroscopy”, in Honour of Michel Herman, ULB, Brussels, September 5, 2016.
  - Workshop “Physics between lead and uranium: in preparation of new experimental campaigns at ISOLDE”, KU Leuven, April 16-18, 2019, partially organized by Piet Van Duppen (KU Leuven) and Andrei Andreyev (University of York, UK), in the framework of the EVEREST Excellence of Science program (FWO-FNRS Belgium, ULB: S. Goriely, S. Van Eck and M. Godefroid, KU Leuven: R. Raabe, P. Van Duppen).
  - EOS Satellite workshop “Electronic atomic factors and hyperfine anomalies for nuclear physics”, ULB, April 15, 2019, organized by M. Godefroid, in the framework of the EVEREST Excellence of Science program (FWO-FNRS Belgium, ULB: S. Goriely, S. Van Eck and M. Godefroid, KU Leuven: R. Raabe, P. Van Duppen).
  - EOS topical workshop on “Magnetic Moments - Experiment versus Theory”, ULB Brussels, November 6, 2019, organized by P. Van Duppen and S. Goriely in the framework of the EVEREST Excellence of Science program (FWO-FNRS Belgium, ULB: S. Goriely, S. Van Eck and M. Godefroid, KU Leuven: R. Raabe, P. Van Duppen).
  - EOS topical workshop on “Computational Atomic Structures”, ULB Brussels, November 22-24, 2019, organized by M. Godefroid in the framework of the EVEREST Excellence of Science program (FWO-FNRS Belgium, ULB: S. Goriely, S. Van Eck and M. Godefroid, KU Leuven: R. Raabe, P. Van Duppen).
  - Solvay workshop “New Frontiers in Atomic, Nuclear, Plasma and Astrophysics”, in Honour of Michel Godefroid, ULB, Brussels, November 25-27, 2019.

### 5.3. Awards and honours

- Prix STAS de l'Académie Royale des Sciences, des Lettres et des Beaux-Arts de Belgique, 1980.
- Lauréat du Concours de Bourses de voyage 1980 du Ministère de l'Education Nationale et de la Culture Française.
- Prix GUILISSEN de l'Ecole Polytechnique, Faculté des Sciences Appliquées, U.L.B., 1980.
- Visiting Professor in the School of Mathematics and Physics, Queen's University of Belfast, Northern Ireland, 1997-99.
- Professeur Invité à l'université Paris XI, pour l'année académique 1999/2000.
- Lauréat du Concours annuel 2000 de la Classe des Sciences de l'Académie Royale des sciences, des lettres et des beaux-arts de Belgique, Groupe II/a-Astronomie-Physique.
- Membre élu du Comité International de l'EGAS (*European Group for Atomic Spectroscopy*), 1998 - 2002  
(<http://www.eps-egas.org/>)
- Membre élu du Bureau de la Division de Physique Atomique, Moléculaire et Optique (PAMO) de la Société Française de Physique (SFP), 2005 - 2007  
(<http://www.cemes.fr/Pamo-SFP/presentationPAMO.html>)
- Invited Professor in the General Physics Department of Vilnius Pedagogical University, Vilnius, Lithuania, 2009.
- Honorary Doctor at the Faculty of Technology and Society of Malmö University, October 19th, 2018.

## 6 Logistic responsibilities

### 6.1. Research and teaching

#### 6.1.1. Management

- **Research groups, etc...**

- Co-directeur du Service de Chimie quantique et Photophysique de la Faculté des Sciences, Département de Chimie (2002-) (co-directeur: Prof. M. Herman)
- Membre du Collège de l'Ecole Doctorale ULB "*Physique Microscopique et Astrophysique*".
- Membre du Collège de l'Ecole Doctorale ULB "*Interactions Photons-Matière: des Molécules aux Supramolécules*".
- Coresponsable de l'unité de recherche ULB165 "*Chimie Quantique et Physique Atomique CPM*"
- Collaborateur Principal du projet international **SAM** (**S**ystematic, **A**ccurate, **M**ulti-configuration calculations), collaboration entre différents groupes de Physique Atomique visant à produire, rassembler et distribuer des données atomiques précises dont on estime l'incertitude.  
(<http://aniara.gsfc.nasa.gov/sam/sam.html>)
- Contribution à la MCHF/MCDHF Atomic Database (<http://nlte.nist.gov/MCHF/>)

- **Principal and co-investigator of research projects**

- Co-promoteur du projet "*Etude ab-initio des séries de Rydberg dans les systèmes alcalino-terreux*" subsidié par le Ministère de la Communauté Française dans le cadre d'un échange culturel Belgique-Pays-Bas.
- Coordinateur du projet de recherches "*Large Scale Atomic Calculations*", subvention n° 0225/89 du Programme de Subventions à la Recherche Coopérative de l'OTAN. Renouvellement obtenu en novembre 1991.
- Co-promoteur du contrat de recherches FNRS "*Etudes théoriques de structures atomiques*" (FRFC 2.4533.91).
- Co-promoteur du contrat de recherches FNRS "*Photophysique et Photochimie Moléculaires*" (FRFC 2.4551.92F).
- Co-promoteur de l'Action de Recherche Concertée "*Les clés quantiques de la réactivité*" 1993-97
- Co-promoteur du projet "*Spectroscopie Infrarouge de molécules atmosphériques*" subsidié par le Ministère de la Communauté Française de Belgique dans le cadre d'un échange culturel Belgique-France (Tournesol), 1994.
- Co-promoteur du projet "*Large Scale Oscillator Strength Calculations for Astrophysical and Laboratory Plasmas*", Accord de Coopération Scientifique C.G.R.I. - F.N.R.S. - British Council, 1994-95.
- Obtention de crédits d'ouverture internationale au Bureau des Relations Internationales pour le séjour de Dr. G. Gaigalas (Vilnius, Lithuania) September 1 - December 31, 1995.

- Don du Fonds Emile Defay 1996 pour l’acquisition d’une station de travail - en collaboration avec N. Vaeck et J. Liévin.
- Co-promoteur du contrat de recherches FNRS “*Etudes de structures et de processus dynamiques dans les spectres atomiques. Détermination par différentes approches ab initio et semi-empiriques de grandeurs électroniques de grande précision.*”, UMH-ULB, (FRFC 2.4503.99), 1998-2001.
- Accueil du Professeur C. Froese Fischer (Vanderbilt University, TN, USA), dans le cadre du Fulbright Program - Commission for Educational Exchange between the United States, Belgium and Luxembourg (séjour de 6 mois en 1998/99)
- Don du Fonds Emile Defay 1998 pour l’acquisition d’une station de travail.
- Co-promoteur du contrat de recherches FNRS “*Photophysique et Photochimie*” (FRFC 2.4566.00) 1999-2005
- Co-promoteur du contrat de recherches “*Structures hyperfines des éléments du groupe du fer*” - Coopération scientifique Communauté Wallonie-Bruxelles/Pologne 2000-01, (M. Godefroid - ULB / J. Bieroń - Jagiellonski U.) - renouvellement 2002
- Co-promoteur du contrat de recherches FNRS “*Etudes de systèmes atomiques ultra-corrélés.*”, UMH-ULB, (FRFC 2.4523.02), 2002-05.
- Co-promoteur du contrat de recherches FNRS “*Photophysique et photochimie en phase gazeuse*” (I.I.S.N. 4.4506.06) 2006-09
- Directeur effectif des recherches dans le cadre de la convention I.I.S.N. 4.4503.02, “*Atomes, ions et rayonnement. Etude expérimentale et théorique de mécanismes fondamentaux régissant les interactions laser-atome et de processus radiatifs et collisionnels d’intérêt astrophysique et thermonucléaire.*” U.C.L.-U.L.B., 2002-05/2006-09.
- Co-promoteur et porte-parole de l’Action de Recherche Concertée “*Atoms and Molecules at High Resolution*”, 2003-2008.
- Co-promoteur du contrat de recherches FNRS “*Spectrophysique pour l’Astrophysique*”, UMH-ULB, (I.I.S.N. 4.45407.06), 2006-09.
- Co-promoteur de l’Action de Recherche Concertée “*Atomes, Molécules et Atmosphères: des Hamiltoniens quantiques aux missions satellitaires*” (ATMOS), 2008-2013
- Directeur effectif des recherches dans le cadre de la convention I.I.S.N. 4.4502.10, “*Stellar magnetic fields, atmospheres modelling and atomic parameters.*”, ULB - UMH, 2010-2012.
- Member of IAP-VII Network (2012-2017) “The Belgian Research Initiative on eXotic nuclei for atomic, nuclear and astrophysics studies” (BriX) (BELSPO Interuniversity Attraction Poles (IAP) Programme.)
- Promoteur du Crédit de recherche (CDR) FNRS (F.R.S.-FNRS) J.0047.16 “Computational Atomic Structure for Isotope Shift and Hyperfine Structure Electronic Factors” (2016-2017)
- Co-PI of the Excellence of Science FNRS & FWO Research Project “Heavy Element Research for Nuclear, Atomic and Astrophysics Studies” (EVEREST), (EOS-O022818F, 2018-2021), Pieter Van Duppen and Mark Huyse (KULeuven, Nuclear spectroscopy), Riccardo Raabe (KULeuven, Nuclear reactions), Stephane Goriely and Sophie Van Eck (ULB, Nuclear Astrophysics), Michel Godefroid (ULB, Atomic Physics).

### 6.1.3. Management of national and international workshops and conferences

- Membre du Scientific Committee of the Third International Colloquium “*Atomic Spectra and Oscillator Strengths for Astrophysics and Fusion Research*”, ASOS3, Amsterdam, August 28–31, 1989.
- Coorganisateur du workshop:  
“*Topics in Supercomputing: The use of supercomputers in ab initio calculations for nuclei, atoms and molecules.*” (FNRS-NFWO), U.L.B., Bruxelles, December 2, 1991.
- Coorganisateur du workshop:  
“*Static and Dynamic Mean-Field Approaches: from Nuclei to Molecules.*”, U.L.B., Bruxelles, April 25-27, 1996.
- Coorganisateur de la Réunion:  
“*Quantum Chemistry in Belgium III.*”, U.L.B., Bruxelles, October 9, 1997.
- Membre des comités organisateur et scientifique de la réunion “Photomat-SRC”:  
“*Photon-Matter Interaction: Concerto for Fourier Transforms*”, U.L.B., Bruxelles, November 22-26, 1999.
- Member of the European Group for Atomic Spectroscopy Scientific Committee of the 31st EGAS (Marseille, France, 1999), 32nd EGAS (Vilnius, Lithuania, 2000), ECAMP VII (Berlin, Germany, 2001), 34th EGAS (Sofia, Bulgaria), 2002 Conferences, 35th EGAS (Brussels, Belgium, 2003), 8th EPS Conference on Atomic and Molecular Physics (ECAMP VIII, Rennes, France, 2004)
- Coorganisateur de la Réunion:  
“*Journée de Chimie Physique Moléculaire*”, in honour of Profs. R. Colin and G. Verhaegen, U.L.B., Bruxelles, November 8, 2002.
- Président du comité organisateur local de la 35th EGAS Conference (European Group for Atomic Spectroscopy Conference), Brussels, July 15-18, 2003.
- Member of the International Program Committee of the International Colloquium on Atomic Spectra and Oscillator Strengths (ASOS8), Madison, Wisconsin, USA, 2004.
- Member of the organizing and scientific committee of the General Scientific Meeting 2008 of the Belgian Physical Society, Brussels, May 21, 2008
- Member of the organizing committee of the RCTF meeting , Namur (Belgium), July 4-8, 2010.
- Member of the Local Organizing Committee of the 11th International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas (ASOS-11), Mons, Belgium, August 5-9, 2013.
- Co-organization of the ECT\* workshop “*The interplay between atomic and nuclear physics to study exotic nuclei*” with S. Fritzsche, G. Neyens, W. Nörtershäuser Trento (Italy), August 24-27, 2015 ( <http://www.ectstar.eu/node/1224> ).
- Member of the organizing committee of the Solvay workshop “*Conceptual Quantum Chemistry: Present Aspects and Challenges for the Future*”, Brussels (Belgium), April 2016.



- Member of the Scientific Organising Committee of the 12<sup>th</sup> International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas (ASOS-12), São Paulo, Brazil, July 4-16, 2016.
- Elected Member of the Scientific Organizing Committee of the 13<sup>th</sup> International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas (ASOS-13), Shanghai (Fudan U.), China, June 24-27, 2018.
- Organizer of the Workshop on “*Electronic Atomic Factors and Hyperfine Anomalies for Nuclear Physics*”, Université libre de Bruxelles, Brussels, Belgium, April 15, 2019.
- Co-organizer of the Solvay workshop “*New frontiers in atomic, nuclear, plasma and astrophysics*”, with S. Van Eck and P. Coheur, Brussels (Belgium), November 25-27, 2019.

## 6.2. Contribution to the ULB administration

### 6.2.1. Mandates

- Délégué de la Faculté des Sciences au sein du Comité des utilisateurs du Centre de Calcul (1994-98).
- Président du Comité des utilisateurs du Centre de Calcul (1998-99).
- Vice-Président du Comité des utilisateurs du Centre de Calcul VUB/ULB Computer Center” (2000).
- Membre de la commission “Evolution of the Central Configuration of the Central Configuration of the VUB/ULB Computer Center” (1998).
- Membre du groupe de travail sur les “Règles d’utilisation du réseau et du site Web” à l’ULB. (1999/00).
- Délégué du Département de Chimie à la Commission des Bibliothèques, U.L.B. (1999-2010).
- Vice-Président du Département de Chimie, Faculté des Sciences, U.L.B. (2000, 2003).
- Président du Département de Chimie, Faculté des Sciences, U.L.B. (2001-02).
- Président de la Commission des doctorats du Département de Chimie (2003-2010).
- Secrétaire du Jury de 2<sup>ème</sup> licence en sciences chimiques (2005-07).
- Président de la Commission Enseignement du Département de Chimie (2008-2010).
- Représentant du corps académique de la Faculté des Sciences au sein du Conseil des bibliothèques (2006-09).
- Vice-Président du Conseil de Gestion du Centre de Calcul ULB-VUB (2007, 2011-2012).
- Président du Conseil de Gestion du Centre de Calcul ULB-VUB (2008-2010).
- Vice-Recteur pour la Recherche et Développement (20/09/2010 - 24/01/2011).
- Conseiller du Recteur pour la recherche en sciences exactes (02/2011 - 09/2016).

- Président du Jury de Master en sciences chimiques (2011 - 2019).
- Coordinateur du partenariat privilégié entre l'Université Pierre et Marie Curie (UPMC) - Paris 6 et l'ULB (10/2016 - 09/2019).