

CURRICULUM VITAE

Last Name: FIFIRIG

First Name: MAGDA

Position: Professor

Institution: University of Bucharest, Faculty of Chemistry,

Department of Physical Chemistry

Permanent address: Bd Regina Elisabeta 4-12, R-030018 Bucharest, Romania

Date of birth: 5 October 1958

Place of birth: Bacău, Romania

EDUCATION

1999 PhD in Physics (Theoretical Physics), University of Bucharest

1977-1982 University of Bucharest, Faculty of Physics

EMPLOYMENT

1990 - present - Department of Physical Chemistry, Faculty of Chemistry, University of Bucharest

2005 - present - Professor

2002 - 2005 - Associate Professor

1998 - 2002 - Lecturer

1990 - 1998 - Teaching Assistant Professor

1983 - 1990 - Researcher, Research and Design Institute for Electrical Engineering ICPE, Bucharest

1982 - 1983 - Physics teacher, "Liceul Economic" Bacău

SCIENTIFIC WORK

Research in theoretical atomic physics

Multiphotoionization of atomic hydrogen, Phase control and dichroic effects in multiphotoionization by a coherent superposition of laser fields

Dissociative excitation, dissociative recombination and related processes (vibrational excitation, vibrational de-excitation and elastic scattering) in slow electron collisions with diatomic molecular ions

EXPERIENCE IN COMPUTATION

Experience in Fortran 77 on workstations and PC.

List of scientific works

Papers in international journals (ISI papers)

- [1] "Two-colour three-photon ionization of hydrogen", M. Fidirig, A. Cionga and V. Florescu, *J Phys B-At Mol Phys*, **30**, 2599-2608 (1997).
- [2] "Azimuthal angular distribution for two-colour three-photon ionization of hydrogen", M. Fidirig and V. Florescu, *Eur Phys J D*, **2**, 143-147 (1998).
- [3] "Two-photon four-color ionization of hydrogen", M. Fidirig, *Laser Phys*, **10**, 588-593, (2000).
- [4] "Phase dependence of three-colour two-photon ionization of hydrogen", M. Fidirig, V. Florescu, A. Maquet and R. Taieb, *J Phys B-At Mol Phys*, **33**, 5313-5327 (2000).
- [5] "Ionization of a hydrogen atom from its ground state by a coherent bichromatic laser field", M. Fidirig and A. Cionga, *Eur Phys J D*, **15**, 33-39 (2001).
- [6] "Helicity dependence of two-photon ionization by a tricolor field", M. Fidirig, *Opt Commun*, **196**, 191-199, (2001).
- [7] "Hydrogen ionization by a coherent superposition of three harmonics", M. Fidirig, *Laser Phys*, **11**, 989-993, (2001).
- [8] "Dichroic effects in two-photon ionization of hydrogen by a three-color field", M. Fidirig, *Phys Scripta*, **65**, 213-218, (2002).
- [9] "Asymmetries in two-photon ionization", M. Fidirig and M. Stroe, *Laser Phys*, **12**, 963-970, (2002).
- [10] "Circular dichroism in hydrogen multiphoton ionization by a bichromatic field of frequencies ω and 3ω ", M. Fidirig and A. Cionga, *J Phys B-At Mol Phys*, **35**, 821-828, (2002).
- [11] "Phase and ellipticity dependence of the photoelectrons angular distribution in two-color ionization", M. Fidirig, *Phys Scripta*, **65**, 392-397, (2002).
- [12] "Circular dichroism in the two-colour two-photon ionization of hydrogen", A. Cionga, M. Fidirig and F. Ehlotzky, *J Phys B-At Mol Phys*, **35**, 4875-4884, (2002).
- [13] "Dichroic effects in the two-color two-photon ionization of hydrogen", A. Cionga, M. Fidirig and F. Ehlotzky, *J Mod Optic*, **50**, 615-620, (2003).
- [14] "Phase control in two-color multiphoton ionization of hydrogen", M. Fidirig and M. Stroe, *Laser Phys*, **13**, 810-815, (2003).

- [15] "Elliptic dichroism in hydrogen ionization by a coherent superposition of two harmonics", M. Fifrig, A. Cionga and F. Ehlotzky, *Eur Phys J D*, **23**, 333-336, (2003).
- [16] "Phase- and helicity-dependent effects in three-color ionization", M. Fifrig and M. Stroe, *Central European Journal of Physics*, **2**, 266-276, (2004).
- [17] "Towards a model for the dissociative recombination of the CO^{2+} dication: states and couplings", N. Vinci, N. de Ruelle, F. O. Waffeu-Tamo, O. Motapon, M. Fifrig, O. Crumeyrolle, X. Urbain, J. Tennyson, and I. F. Schneider, *Journal of Physics: Conference Series*, **4**, 162-167, (2005).
- [18] "Reactive collisions between electrons and NO^+ ions: rate coefficient computations and relevance for the air plasma kinetics", O. Motapon, M. Fifrig, A. Florescu, F. O. Waffeu-Tamo, O. Crumeyrolle, G. Varin-Breant, A. Bultel, F. Vervisch, J. Tennyson, and I. F. Schneider, *Plasma Sources Sci. Technol.*, **15**, 23-32, (2006).
- [19] "Dissociative excitation in electron collisions with HD^+ ", M. Fifrig and M. Stroe, *Phys Scr*, **78**, 065302, (2008).
- [20] "Electron-induced dissociation in H_2^+ , HD^+ and HT^+ ", M. Stroe and M. Fifrig, *Phys Lett A*, **373**, 4152-4157, (2009).
- [21] "Electron-induced processes in H_2^+ , D_2^+ and T_2^+ ", M. Stroe and M. Fifrig, *J Phys B-At Mol Phys*, **42**, 205203, (2009).
- [22] "Dissociative excitation of HD^+ , D_2^+ , and DT^+ by electron impact", M. Duca and M. Fifrig, *Cent Eur J Phys*, **8**, 87-94, (2010).
- [23] "Competition between reaction channels in electron collisions of vibrationally excited H_2^+ ", A. Varlan, M. Duca and M. Fifrig, *Mol Phys*, **108**, 2093-2104, (2010)
- [24] "Dissociation and vibrational excitation of cold HD^+ by electron impact", M. Stroe and M. Fifrig, *Eur Phys J D*, **61**, 63-70, (2011)
- [25] "Dissociation of H_2^+ ions by collisions with electrons", M. Fifrig and M. Stroe, *J Phys B-At Mol Phys*, **44**, 085202, (2011)
- [26] "Dissociation of vibrationally excited D_2^+ by electrons", M. Stroe and M. Fifrig, *Mol Phys*, **109**, 1617-1625, (2011)

Papers in romanian journals

- [1] "Rayleigh scattering from $n = 3$ states of hydrogen in the vicinity of some resonances", V. Florescu, M. Fifrig and A. Cionga, *Rev. Roum. Phys.*, **29**, 147-162 (1984).
- [2] "Analytic approach to three-photon $1s$ -continuum transitions in hydrogen", A. Cionga, M. Vătăşescu, M. Fifrig and V. Florescu, *Rom. Rep. Phys.*, **46**, 441-446, (1994).
- [3] "Three-photon ionization near resonances in two-colour processes", M. Fifrig, *Rom. J. Phys.*, **43**, 221-232 (1998).
- [4] "Polarization effects on angular distributions in two-colour three-photon ionization", M. Fifrig, *Rom. J. Phys.*, **43**, 719-727 (1998).
- [5] "Ionization of hydrogen by a coherent superposition of a laser field and its third harmonic", M. Fifrig and V. Florescu, *Rom. J. Phys.*, **44**, 533-541 (1999).
- [6] "Interference effects in three-colour ionization of hydrogen ", M. Fifrig and V. Florescu, *Rom. Rep. Phys.*, **52**, 609-618 (2000).
- [7] "The ionization of atomic hydrogen in a multicolour laser field", M. Fifrig and V. Florescu, *Rom. J. Phys.*, **47**, 415-424 (2002).
- [8] "K-shell photoionization in the presence of a laser field", M. Fifrig and V. Florescu, *Rom. Rep. Phys.*, **55**, 761-779 (2003).
- [9] "Quantum interferences of super-excited states: applications to electron-molecular cation reactive collisions", M. Stroe, A. Florescu, M. Fifrig, F. O. Waffeu-Tamo, V. Ngassam, O. Motapon, and I. F. Schneider, *Rom. Rep. Phys.*, **57**, 748-772 (2005).
- [10] "Electron transfer mechanism of the fluorescence quenching of 3-carboxy-5,6-benzocoumarin by some aromatic amines", C. Tablet, M. Fifrig and M. Hillebrand, *Revue Roumaine de Chimie*, **53**, 113-117, (2008).

Books

- [1] "Probleme rezolvate de electricitate", C. Cioacă, C. Stănescu și M. Fifrig, Ed. Tehnică, Buc., **1997**, ISBN 973-31-0776-X.
- [2] "Mécanique quantique", M. Fifrig, Ed. Univ. Buc., **2001**, ISBN 973-575-513-0.
- [3] "Fizică - Electromagnetism", M. Fifrig, Ed. Univ. Buc., **2002**, ISBN 973-575-664-1.

Research grants

- [1] CNCSU 8/5009/1996
- [2] CNCSU 949/7009/1997
- [3] CNCSU 123/17/1998
- [4] PECO CIPD CT 940025/1996
- [5] Banca Mondială 110/1998
- [6] CNCSIS 37116/34/2000
- [7] CNCSIS 35262/41/2001
- [8] MEC B 17/2001
- [9] CNCSIS 33618/109a/2002
- [10] CERES 8/2002
- [11] PN2 IDEI ID 967/2007-2010 (director)

Prizes

Stefan Procopiu Prize of the Romanian Academy on 2002

Bucharest, June 2011

Professor Magda Fifrig