Curriculum Vitae

Yuzhi Song

Coimbra, Portugal

2011

Personal data

Name: Yuzhi Song

Date of Birth: October 6th,1980

Place of birth: Linyi city, Shandong province, China

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Academic degrees

2000-2004: BSc in Physics, Shandong Normal University, China

Major courses: General Physics, Electrodynamics, Electromagnetism, Quantum Mechanics, Modern Physics Experimentation, Mathematical Physics Methods, Solid physics, Thermodynamics and Statistical Physics

Thesis: Theoretical research on the nonlinear optical properties of metallic organic complexes

2004-2006: MSc in Atomic and Molecular Physics, Shandong Normal University

Major courses: Advanced quantum mechanics, Professional English, Quantum Collision Theory, Group Theory, Structure and spectrum of atom, Quantum Chemistry

Thesis: Theoretical study of nonlinear optical properties of organic molecular materials

2006-2011: PhD in Theoretical and Computational Chemistry, University of Coimbra, Portugal. Under the supervision of Prof. A.J.C. Varandas..

Thesis: Accurate *ab initio*-based double many-body expansion potential energy surfaces and dynamics for sulfur-hydrogen molecules.

Previous and current scientific activities

Oct.-Nov. 2005: Visiting student,
State Key Laboratory of Molecule Reaction Dynamics,
Dalian Institute of Chemical Physics, P.R. China

Mar.-Nov. 2006: Research student,
Departamento de Quimica, Universidade de Coimbra, Portugal

Academic fellowships

2000-2001: The first prize scholarship of Shandong Normal University (SDNU)
Excellent Student of SDNU

2001-2002: The first prize scholarship of SDNU
Excellent Student Cadre of SDNU

2002-2003: The first prize scholarship of SDNU
Excellent Student Cadre of SDNU

2004-2005: The first prize scholarship of SDNU
Excellent Student of SDNU

2005-2006: The first prize scholarship of SDNU
Excellent Student of SDNU

2007-2011: Fundação para a Ciência e a Tecnologia, Portugal

2010: Chinese Government Award for Outstanding Self-financed Students Abroad

English ability

- March 2002: Pass Band four of Chinese College English Test (CET)
- March 2003: Pass Band six of Chinese College English Test (CET)

Computer ability

- ✓ March 2002: Excellent in College Computer Test (CCT)
- ✓ September 2002: Pass Band two of the National Computer Test, language C
- ✓ Good knowledge at using Molpro, Gaussian 98/03 *ab initio* package
- ✓ Programming skills in Fortran 77/90 and C.

Teaching activities

2005-2006 Quantum mechanics.

Exercise lessons, under supervison of Prof. Chuankui Wang.

College of Physics and Electronics, Shandong Normal University.

Poster presentation in scientific conferences

[1] Y. Z. Song and A. J. C. Varandas, "Accurate DMBE potential energy surface for ground state HS_2 extrapolated to the complete basis set limit". XVIII European Conference on Dynamics of Molecular Systems, Curia, Portugal, September 5-10, 2010

[2] Y. Z. Song and A. J. C. Varandas, "*Ab initio* study of potential energy surfaces for H_2S and HS_2". Week of Science and Technology 2010, Coimbra, Portugal, Novermber 23, 2010

Publications

[1] Yuzhi Song, Xunwang Yan, Ruijin Liu, Xiaoming Huang, Chuankui Wang, "The first-order hyper polarizability frequency dispersion of a ferrocenyl derivative", *Journal of Shandong Normal University*, 2005, **20**(4): 30.

[2] Yuzhi Song, Dongmei Li, Xiuneng Song, Xiaoming Huang, Chuankui Wang, “Solvent effects on two-photon absorption cross sections of a newly synthesized polymerization initiator”, *Journal of Molecular Structure: THEOCHEM*, 2006, **772**: 75.

[3] Jicai Liu, Ke Zhao, Yuzhi Song and Chuankui Wang, “Dynamical behavior of ultra-short laser pulse in a cascade three-level molecular system”, *Acta. Phys. Sin.*, 2006, **55**(4): 1803.

[4] Y. Z. Song, A. Kinal, P. J. S. B. Caridade, P. Piecuch and A. J. C. Varandas, “A comparison of single-reference coupled-cluster and multi-reference configuration interaction methods for representative cuts of the $H_2S(^1A')$ potential energy surface”, *Journal of Molecular Structure: THEOCHEM*, 2008, **859**: 22.

[5] Y. Z. Song and A. J. C. Varandas, “Accurate *ab initio* double many-body expansion potential energy surface for ground-state H_2S by extrapolation to the complete basis set limit”, *Journal of Chemical Physics*, 2009, **130**: 13431.

[6] Y. Z. Song, P. J. S. B. Caridade, and A. J. C. Varandas, “Potential energy surface for ground-state H_2S via scaling of the external correlation, comparison with extrapolation to complete basis set limit, and use in reaction dynamics”, *Journal of Physical Chemistry A*, 2009, **113**: 9213.

[7] Y. Z. Song and A. J. C. Varandas, “Accurate DMBE potential energy surface for ground-state HS_2 based on *ab initio* data extrapolated to complete basis set limit”, *Journal of Physical Chemistry A*, 2011, **115**: 5274.