Jana Radaković, MSc

Personal information

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Career objectives

I seek a post doctorate position in a professional group dedicated to solving the problem of growing nuclear waste. I am interested in doing research based on computational modeling of fundamental or practical properties of perspective materials for nuclear waste disposal.

Education

PhD Physical Chemistry – Defense is anticipated in September 2013.

- Institute of Nuclear Sciences "Vinča", Laboratory for Nuclear and Plasma Physics
- Faculty of Physical Chemistry, University of Belgrade
- **Thesis:** *Electronic structure and electric field gradients of HfV_2 and ZrV_2 intermetallic compounds – pure, doped with tantalum and cadmium, and their hydrides*

MSc Physical Chemistry, January 2009.

- Faculty of Physical Chemistry, University of Belgrade
- Institute of Nuclear Sciences "Vinča", Laboratory for Nuclear and Plasma Physics
- **Thesis:** *Ab initio theoretical calculations of structure and ground state energy of Hf_2Ni intermetallic compound*

Diploma thesis in Physical Chemistry, May 2008.

- Faculty of Physical Chemistry, University of Belgrade

Working experience

June 2008 – November 2008.

- Volunteer at the Laboratory for Nuclear and Plasma Physics, Institute of Nuclear Sciences "Vinča", Belgrade, Serbia

November 2008 – Present

- Research Assistant at the Laboratory for Nuclear and Plasma Physics, Institute of Nuclear Sciences "Vinča", Belgrade, Serbia

Research experience

2008 – 2010.

- Application of density functional theory based computational codes in development of materials for hydrogen storage.

2009 – 2013.

- Studying the local structure, electronic properties, and hyperfine interaction parameters of pure and doped intermetallic compounds.
- Investigation of modifications in electronic structure, unit cell and electric field gradients, after hydrogenation of vanadium based Laves phases.

Computer skills

- Experience of quantum mechanical calculations on periodic solids
- Band structure codes:
  - ***Wien2k*** – program package used for electronic structure calculations in solid state (based on density functional theory (DFT), it implements full-potential (linearized) augmented plane wave plus local orbitals method)
  - ***VASP*** – performs band structure calculations based on DFT (implemented ether by using norm-conserving, or ultra-soft pseudopotentials, or via the projector-augmented-wave method), and ab-initio molecular dynamics
- Proficient with PC (Linux Red Hat/Ubuntu and Windows XP/Vista/7 operating systems):
  - LaTeX
  - Microsoft Office Word, Excel, PowerPoint
  - Wolfram Research Mathematica, Origin Pro
  - CorelDraw, Adobe Photoshop
- Maintenance of Advanced Materials Research Group web-page: http://www.advancedmaterialsgroup.edu.rs/

Languages

- English – proficient
- German – basic knowledge
- Russian – basic knowledge

List of publications

1. D. Stojić, S. Kumrić, J. Belošević-Čavor, J. Radaković, B. Cekić and S. Mentus, Hydridic, thermodynamic and kinetic properties of Hf_2Ni intermetallic phase, *International Journal of Hydrogen Energy* 34 (2009) 3764–3770
2. J. Belošević-Čavor, V. Koteski, J. Radaković, and B. Cekić, Ab initio study of hyperfine interaction parameters in C14 Hf and Zr Laves-phase compounds, *Physical Review B* 79 (2009) 172407
3. J. Radaković, K. Ćirić, J. Belošević-Čavor, V. Koteski, First-principles study of the thermodynamic properties and electronic structure of compounds from Hf–Ni phase system, *Computational Material Science* 49 (2010) 55-59
4. K. Ćirić,V. Koteski, D. Stojić, J. Radaković, V. Ivanovski, HfNi and its hydrides - First principles calculations, *International Journal of Hydrogen Energy* 35 (2010) 3572-3577
5. J. Belošević-Čavor, V. Koteski, J. Radaković, Structure identification and site preference of Ta and Cd in Ti-Pd alloys: A first-principle study, *Solid State Communications* 152 (2012) 1072-1075
6. J. Radaković, J. Belošević-Čavor, V. Koteski, First principles study of HfV_2 and ZrV_2 phases: Structural analysis and site preference of Cd and Ta dopants, *Intermetallics* 32 (2013) 90-95
7. J. Radaković, J. Belošević-Čavor, V. Koteski, Hydrogen storage in Laves phases: first principles study of electronic structure and formation energies in HfV_2 hydrides, *International Journal of Hydrogen Energy*, Accepted for publication, DOI information: 10.1016/j.ijhydene.2013.05.035

Poster and oral presentations

- Poster presentation at *Computational Nanoscience for Renewable Energy Solutions, Psi-k summer school*, 14-17.09.2009. Helsinki, Finland
- Oral presentation at *International Conference on Advanced Materials Modeling and 17th Wien2k workshop*, 5-10.07.2010. Institut des Matériaux Jean Rouxel, Nantes, France
- *Quantum Monte Carlo and Casino Program V Summer School*, 01-08.08.2010. Vallico Sotto, Italy
- Poster presentation at *WE-Heraeus Summer School for Physics, Computer Simulations on Nanotechnology for the Environment*, 03-15.07.2011. Jacobs University, Bremen, Germany
- *Science and Technology in Cultural Heritage*, 05-11.09.2011. Frauenchiemsee, Germany
- Oral presentation at *Tenth young researchers' conference Material Science and engineering*, 21-23.12.2011 Belgrade, Serbia
- Poster presentation at *4th International Symposium on Structure-Property Relationships in Solid State Materials*, 24-29.06.2012. Bordeaux, France
- Oral presentation (part III) during the working visit to the Department for nanostructured materials, Institute Jožef Štefan, Ljubljana, Slovenia 23-26.09.2012.