Institute of Physics of the ASCR, v.v.i.

Na Slovance 2, 182 21 Prague 8, Czech Republic

Prague, June 20, 2017.

Mgr. Agnieszka L. Kozub started her PhD studies under my supervision in the Department of Condensed Matter Theory of the Institute of Physics of the Academy of Sciences of the Czech Republic in October 2013. The plan of her studies was two-fold:

(i) to learn and acquire practical experience in the electronic structure theory of real solids with strong electron-electron correlations;

(ii) to apply the tools and methods of the correlated electronic structure theory to the compounds which were investigated experimentally in the group of Prof. Dr. Klimczuk at Gdansk Universiy of Technology.

Mgr. Agnieszka L. Kozub showed good performance in accomplishing both sub-topics. At first, she learned how to solve the multi-orbital Quantum Impurity model for realistic systems making use of the "Exact diagonalization" – finite temperature Lanczos method. The results of this study were presented at the ''week of Doctoral Studies" (WDS) at the Charles University, and the article describing the results was published in the proceedings of WDS. Next, she performed the studies of the electronic structure and magnetism of rare-earth impurities on graphene. This work was done within a framework of the GACR project ''Charge and spin doping of graphene by substitutional impurities: theory and experiment", and resulted in the publication in the Physical Review B. Also, she was actively involved in the calculations of the electronic structure and magnetic properties of selected Np compounds, in support of the experimental activities of the group of Prof. Klimczuk.

During her PhD studies, the student attended several international schools: Hands-on course „Introduction to the application of ab-initio method in spectroscopy" in Pilsen, Czech Republic, „Autumn School on Correlated Electrons: Many-Body Physics: From Kondo to Hubbard" in Jülich, Germany, 11th School on the Physics and Chemistry of the Actinides, ESRF, Grenoble, France. She participated in a number of International Conferences, and presented the posters and the talk.

In my opinion, she completed her scientific tasks quite well, and showed enthusiasm and devotion to the research. She showed herself as a hard-working and well organized individual, and demonstrated outstanding communication skills. The quality and quantity of her research work is fully sufficient for obtaining the PhD degree.

Sincerely Yours,

Ing. Alexander Shick, CSc,, DSc
Senior Researcher in the
Department of Condensed
Matter Theory, IoP ASCR

www.fzu.cz

☎ +420 266 053 111
FAX +420 286 890 527