



Physics Colloquium

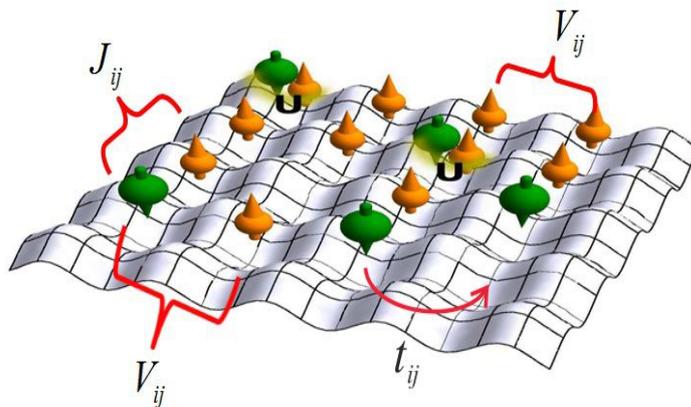
Tuesday, 29 October 2024 at 16:30

Prof. Dr. Józef Spałek

Institute of Theoretical Physics, Jagiellonian University, Poland

Strong-correlation picture of high temperature superconductivity in the cuprates: Comparison with experiment

I overview briefly the work of our group [1] concerning the variational approach to the high temperature superconducting cuprates by going systematically beyond the mean-field picture. The emphasis is put on the phase diagram including (the pair) charge density wave order, as well as on other microscopic characteristics such as the spin fluctuation spectrum. The detailed analysis is carried out within the so-called t-J-U model, encompassing both the Hubbard and t-J-model limits as the particular cases. A relation of the approach to the three-band model will also be briefly touched upon.



The work is supported by Grants from The National Science Centre (NCN) of Poland.

[1] J. Spałek, M. Fidrysiak, M. Zegrodnik, and A. Biborski, Phys. Rep., 959, pp.1-117 (2022).

Host: Prof. Dr. Jürgen Haase

Venue: Universität Leipzig, Faculty of Physics and Earth Sciences
04103 Leipzig, Linnéstraße 5, Small Lecture Hall

Everyone is welcome to a reception with coffee, drinks and cookies in the Aula following the talk.

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