



KONWERSATORIUM INSTYTUTU FIZYKI UMCS

28.03.2019 r., (czwartek) godz. 11¹⁵, Aula IF im. St. Ziemeckiego

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„Electrical properties of normal and topological atomic chains”

Atomic wires and low-dimensional systems are of great interest nowadays. As the thinnest electric conductors they can find many possible applications in nanoelectronics. Such systems reveal many interesting effects like conductance oscillations, spin-charge separation, charge density waves and others that often could not be observed in bulk materials.

In my presentation I will discuss electrical properties of ordinary atomic chains and systems disturbed by additional atoms (adatoms) on different substrates. I will show how disruptions and surface coupling influence charge occupations and conductance. Additionally I will present results of investigating topological chains and show how topological states behave in presence of adatoms and spin-orbit coupling. I will also present time-evolution of atomic systems. I will consider ordinary and topological chains and show that broken chains keep information about system's structure before destroying (memory effect). At the end of my speech I will present my own computer programs with GUI (Graphical User Interface) that allow user to perform calculations in more efficient way and give an opportunity to model atomic system on the surface of any shape.

Uprzejmie zapraszam wszystkich pracowników, doktorantów i studentów Instytutu Fizyki.

Dr hab. Ryszard Zdyb, prof. UMCS
Dyrektor IF UMCS