

Alexei Tsvelik

Brookhaven National Laboratory, USA

Odd frequency pairing in Kondo-Heisenberg model. Rigorous results

I present a model of coupled electron-spin ladders which exhibits odd-frequency pairing and composite order. Each ladder consists of spin-1/2 Heisenberg chain coupled by the Kondo interaction with electrons located on another chain. The ladders are weakly coupled by electron tunneling and exchange interaction. In this model one can go beyond mean field and perturbation theory using controllable approximations. The physics is quite rich; beyond odd-frequency pairing it includes fractionalized excitations and composite order which includes bound states of electron and spin order parameters.