



Contribution ID: 160

Type: Poster

Resonant inelastic x-ray scattering spectra of one-dimensional Mott insulators

Friday, 16 September 2011 12:17 (2 minutes)

Excitation spectra of resonant inelastic x-ray scattering (RIXS) processes in one-dimensional Mott insulators are presented and discussed. The RIXS cross section of Hubbard and extended Hubbard models on finite half-filled chains is evaluated using exact diagonalization. The fundamental features of the obtained spectra reveal the different magnetic excitations occurring in indirect and direct RIXS processes, corresponding to copper K- and L-edge resonances in experiments on quasi-1D cuprates. The spectral features for each process are studied in a broad range of parameter sets and it is shown that by comparison to experiment, physical properties, such as the effect of the intermediate state core hole, can be quantitatively estimated.

Please specify the session

RIXS

Please specify poster or talk

Poster

Primary author: Dr KOURTIS, S (Institute for Theoretical Solid State Physics, IFW Dresden, 01171 Dresden, Germany)

Co-authors: Dr VAN DEN BRINK, J (Institute for Theoretical Solid State Physics, IFW Dresden, 01171 Dresden, Germany); Dr DAGHOFER, M (Institute for Theoretical Solid State Physics, IFW Dresden, 01171 Dresden, Germany)

Presenter: Dr KOURTIS, S (Institute for Theoretical Solid State Physics, IFW Dresden, 01171 Dresden, Germany)

Session Classification: Poster session II and lunch

Track Classification: Poster Session II (Friday)