Nature of the Spin Gap and Slow Magnetism in LSCO
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Abstract
Recent experiments have established a rather universal behavior of the high energy part of the magnetic excitation spectrum in the cuprates. In particular, similar high energy fluctuations have been reported in non-superconducting samples. Emphasizing the properties influenced by superconductivity, we discuss the spectral weight re-distribution, the nature of the spin-gap and the slow quasi-static component as a function of doping in LSCO, combining neutron diffraction, muSR and inelastic neutron scattering and using a magnetic field as additional 'handle'.