On the dimensionality of spin and charge modulations in 1/8 doped lanthanum cuprates

BORIS FINE, Physics Department, University of Tennessee — I compare the standard one-dimensional stripe interpretation of elastic scattering experiments in 1/8 doped lanthanum cuprates with two two-dimensional interpretations. One of them is known as grid[1,2] and the other one is the lattice of magnetic vortices[3]. Both can induce a 4x4 charge modulation similar to the one detected by scanning tunneling spectroscopy. The case of magnetic vortices, however, is favored against grid by a recent spin polarized neutron scattering experiment.