Y. Li: *Superstripes and the excitation spectrum of a spin-orbit-coupled BEC*

Using Bogoliubov theory we calculate the excitation spectrum of a spinor BEC with equal Rashba and Dresselhaus spin-orbit coupling in the stripe phase. The emergence of a double gapless band is pointed out as a key signature of Bose-Einstein condensation and of the spontaneous breaking of translational invariance symmetry. In the long wavelength limit the lower and upper branches exhibit, respectively, a clear spin and density nature. For wave vectors close to the first Brillouin zone the lower branch acquires an important density character responsible for the divergent behavior of the structure factor and of the static response function. The sound velocities are obtained as functions of the Raman coupling.