Full distribution functions of interference contrast in low-dimensional bose gases ADILET IMAMBEKOV, VLADIMIR GRITSEV, EUGENE DEMLER, Harvard University, Physics Department — We consider interference experiments with two independent low dimensional bose condensates. Full distribution function of fringe visibilities is determined by higher order correlation functions within individual condensates and contains non trivial information about quantum and thermal fluctuations in the system. We develop a general method for calculating distribution functions of the interference amplitude and apply it to one and two dimensional condensates both at zero and finite temperatures.

Adilet Imambekov
Harvard University, Physics Department

Date submitted: 20 Nov 2006   Electronic form version 1.4