SO(3,2) Structure and Distributions of Two-Component Bose-Einstein Condensates with Lower Excitations

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Abstract: The eigenstates describing two-component Bose-Einstein condensates (BEC) with weakly excitations have been found, by using the SO(3,2) algebraic mean-field approximation. We show that the two-component modified BEC (see Eq.(26)) possesses uniquely super-Poissonian distribution in a fixed magnetic field along z direction. The distribution will be uncertain, if B=0.

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