

Abstract Submitted
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Ground States of a Mixture of Two Species of Spinor Bose Gases with Interspecies Spin Exchange YU SHI, Fudan University — We consider a mixture of two species of spin-1 atoms with both interspecies and intraspecies spin exchanges, and find out the exact ground states in various parameter regimes. We describe the quantum phase diagrams in the space of parameters, including intraspecies and interspecies spin coupling strengths as well as the magnetic field. The boundaries where the ground states are either continuous or discontinuous are determined, with the latter identified as where quantum phase transitions take place. Interspecies spin exchange leads to features beyond the usual ones of a single species of spinor atoms.

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