

Abstract Submitted
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Studies of dressed states with coupling between spin and orbital-angular-momentum in a Bose condensate YU-JU LIN, HONG-REN CHEN, PAO-KANG CHEN, KUAN-YU LIN, HUNG-JI WEI, NENG-CHUN CHIU, Institute of Atomic and Molecular Sciences, Academia Sinica — We Raman-couple bare spin states of a Bose condensate with a transfer of orbital-angular-momentum (OAM), where one of the Raman beams is a Laguerre Gaussian beam. The dressed spin state in such systems is a superposition state consisting of bare spin states with different OAM. We characterize the spin texture, relevant gauge potentials and lifetime of these dressed states; it is studied in both trap geometries of harmonic potentials and ring-shaped potentials.

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