

Rotating Ultracold Dipolar Gases

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The basic physics of rotating ultracold dilute trapped atomic gases, with emphasis on Bose-Einstein condensation is briefly reviewed. The solution to the nonlinear Schrodinger equation in the rotating frame is presented. The effect of dipole-dipole interaction on an off-axis straight vortex in a rotating ultracold gas is studied and vortex nucleation with many observable consequences is discussed.