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A Cesium (Cs) Bose-Einstein Condensate in an optical trap with the magnetic field as free tuning parameter offers exciting possibilities including tunable matter-wave interferometry which is planned to perform using optical double-well potential. The scattering length of Cs can be controlled using Feshbach coils in the practical range of magnetic field numbers for tuning the atom-atom interactions below an atomchip which adds compactness but increases the complexity. Cs being heavier than other possible candidates like Rubidium associates shorter De Broglie wavelength indicating sensitive equipment which can probe change in gravity for fundamental and environmental research.

Poster Abstract

Session Classification: Poster Session

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