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Ultracold Dysprosium Gas[1] CHAYMA BOUAZZA, Ecole Normale Superieure, BOSE-EINSTEIN CONDENSATE TEAM — Ultracold quantum gases with long-rang and anisotropic interactions open the door to new possibilities for exploring correlated many-body systems. The advantage of using ultracold atoms in order to realize such systems relies on the high level of control and manipulation offered by this field. Recent progress in trapping and cooling some Lanthanide atoms with a strong magnetic moment such as Erbium or Dysprosium present an important tool to investigate the dipole-dipole interaction.
In particular the dysprosium atom has multiple features that make it an interesting candidate to study such systems. It has the largest magnetic moment among all atoms ($10\mu_B$) and a rich energy level structure which allows the implementation of different cooling schemes.
In my talk I will present our experiment with the bosonic isotope ^{164}Dy. I will set forth the interesting features of Dysprosium and explain the difference with alkali systems.

[1]UQUAM

Chayma Bouazza
Ecole Normale Superieure

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