10 Years of Magnetic Dipolar Gases: From Chromium to Lanthanides

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Abstract

Ten years ago the first dipolar effects in a quantum gas were observed in a Chromium gas. By the use of a Feshbach resonance a purely dipolar quantum gas was observed three years after. Among others dipolar interaction effects have been observed in lattices and with alkalis and fermionic species. Recently it became possible to study degenerate gases of lanthanide atoms. The recent observation of their collisional properties includes the emergence of quantum chaos and very broad resonances. We discuss the recent status of our experiments with quantum gases of Dysprosium atoms.

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