SFB/TRR 21 - Seminar

18. November 2011, Ulm

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Dipolar physics with ultracold gases

The tunability of the scattering properties, offered by the Feshbach resonance mechanism, makes ultracold gases an optimal system where weak dipolar interactions can be investigated. The interest in the dipole-dipole interaction in atomic systems derives from it being both anisotropic and long range. The combination of these two features leads to fundamental differences (as compared to the usual short range isotropic interaction) when it comes to the stability of the system, the behavior in optical lattices and the excitation spectrum. In this talk I will present some theoretical results on these topics and their experimental investigation in condensates of Potassium and Chromium.

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