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Coherent control of hot dense Rydberg gases

We report on coherent interaction effects involving Rydberg atoms in a dense gas in a vapor cell. Rabi oscillations in the GHz regime [1] allow for the observation of van der Waals interaction between Rydberg atoms in thermal vapor cells [2]. We also present a novel electric read out technique for the Rydberg population [3]. The current status towards a single photon source based on blockaded four wave mixing [4 and refs. therein] will be presented.

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