

Nonlinear optics with hot Rydberg atoms

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The exceptional large polarizability of highly excited Rydberg states can be exploited in manifold ways in spectroscopy, quantum optics and many body quantum physics. Most experiments on interacting Rydberg atoms in the last decade have been carried out with ultracold gases. Especially the realization of non-classical light states with the help of ultracold Rydberg interactions has attracted attention. Here I want to present how Rydberg excitations in hot vapours confined in microscopic cells can also produce non-classical light fields.