INSTITUT FÜR PHYSIK

SFB-Sonderkolloquium

Sommersemester 2017

Mittwoch | 10. Mai | 15:00 Uhr | Hörsaal 1

Prof. Thomas F. Gallagher
(University of Virginia)

Dipole-Dipole Interactions in the Frozen Rydberg Gas

Rydberg atoms have enormous electric dipole moments, and, due to their dipole-dipole interactions, a frozen Rydberg gas resembles a solid. Two important difference are that the density is thirteen orders of magnitude lower and that its properties are easily manipulated using static and microwave fields. After a brief summary of the important properties of Rydberg atoms, examples of exciton like energy transfer will be presented. In particular, experiments demonstrating Forster energy transfer brought into resonance with static fields and microwave transitions of pairs of atoms will be described. While the two types of experiments are apparently very different, the latter can be thought of as Forster resonant energy transfer between microwave dressed states.

Einlader: Prof. Thomas Fennel

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