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ФАКУЛТЕТЕН СЕМИНАР

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Few-body control of interactions in Rydberg gases

Previously in Laboratoire Aime Cotton, we have succeeded to isolate a 4-body interaction process appearing as a specific resonance of energy exchange between 4 Rydberg atoms. This process originated from the coincident recombination of two 2-body energy exchange resonances called Forster resonance in analogy to FRET in biomolecules. It creates a Borromean type of interaction, potentially useful to study few-body physics but such a coincidence prevents a priori to generalize this idea to other systems. I will present recent results on another few-body (3-body) scheme which originates from a single 2-body FRET and is thus fully generalizable to other atoms and molecules. I will conclude with potential applications of this new type of interaction.