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Interactions in ultracold Rydberg gases¹ JIANING HAN, JULIET MITCHELL, MORGAN UMSTEAD, JOSH MAIER, University of South Alabama — Rydberg atoms are highly excited atoms. The radius of Rydberg atoms is proportional to n^2 , where n is the principal quantum number. Therefore, the interactions between such atoms are much stronger than the interactions between ground state atoms. Room temperature Rydberg atoms have very high kinetic energies, and it is difficult to study such interactions. Laser cooling and trapping made it possible to study such interactions. In this presentation, we report on recent studies on interactions within an ultracold Rb gas.

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Jianing Han
University of South Alabama

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