

Abstract Submitted
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Simulations of Rydberg-Rydberg Interactions FRANCIS ROBICHEAUX, JESUS HERNANDEZ, Auburn University — We present the results of simulations of strongly interacting Rydberg atoms. We have investigated the interaction between two Rydberg atoms and have performed approximate calculations of the interaction between many Rydberg atoms. The focus of the talk will be on simulations of many body effects in a Rydberg gas. In particular, we will examine correlation effects: the dependence of the state of atom A on the state of atom B. Through a judicious choice of basis function we are able to directly simulate the quantum state for more than 20 atoms.

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