

Abstract Submitted
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Preliminary work on the quantum defect measurements¹ LINDSAY HUTCHERSON, JUSTIN SANDERS, JIANING HAN, University of South Alabama — Van der Waals interactions are generally studied in physics, chemistry, biology, and other fields of science. In order to fine-tune van der Waals interactions, the atomic energy levels need to be known very accurately. That is, we must accurately determine the quantum defects. Quantum defects of 85Rb have been recently measured, and the quantum defects of 87Rb have also been measured for nS and nD states with the resolution of 1 MHz. this experiment will focus on the P, F, and G states, which are higher angular momentum states and more sensitive to electric fields. These states are crucial for collisions, which may lead to some of the interesting phenomena in ultracold atoms, such as ultracold plasma. In this presentation, a progress report will be given on this project.

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