

Abstract Submitted  
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**Coulomb blockade in a cold Rydberg gas measured by Ramsey Fringes**<sup>1</sup> JIANING HAN, TOM GALLAGHER, University of Virginia — Dipole blockade, the suppression of the excitation of neighboring atoms, at higher principle quantum number  $n$  has been studied in a cold Rydberg gas. Free ions, often ignored, exist in a cold Rydberg gas, which can shift the energy levels and contribute the blockade effect. Accurately measuring this field is challenging. In this paper, Ramsey fringes driving the  $d$  to  $f$  transition, a transition between two electric field sensitive states, are used to estimate this field and the excitation suppression will be presented.

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