

Abstract Submitted
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Charge transfer processes in ultracold atom-ion collisions¹ DIEGO VALENTE, ROBIN CÔTÉ, University of Connecticut — We investigate charge transfer processes occurring in ultracold collisions of atoms and ions, and explore the effect of external magnetic fields. Our calculations include hyperfine interactions between the ion and the neutral atoms. We discuss how these interactions affect scattering processes, and may lead to detectable resonances. These resonances can be used to control charge transfer which may have applications to quantum information processing. We present results for collisions between various alkaline-earth atom-ion systems.

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