

Abstract Submitted
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Dissociative recombination of HCl^{+1} ÅSA LARSON, Dept. of Physics, Stockholm University, SAMANTHA FONSECA DOS SANTOS, ANN E. OREL, Dept. of Chemical Engineering and Materials Science, University of California, Davis — Recently, the molecular ion HCl^+ has been observed in the interstellar medium. There is little information available about the cross sections for creation and destruction of this ion. Therefore, we have begun calculations to predict the dissociative recombination cross section and the final state distribution of atomic states produced in the dissociation. The relevant electronic states are calculated *ab initio* by combining electron scattering calculations using complex Kohn variational method to obtain resonance positions and autoionization widths and multi-reference configuration interaction calculations to construct the ion and Rydberg states. The direct dissociation recombination cross section is obtained by using wave packets propagating on the resonant states.

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