Three-dipole recombination in parallel 1D-tubes[1] EDMUND MEYER, Kansas State University, SHAI RONEN, None, B.D. ESRY, Kansas State University — We present a study of three interacting dipoles in parallel 1D tubes. It has been predicted that two dipoles in separate tubes can have a cross-tube bound state [1]. We use an adiabatic hyperspherical formalism to construct the hyperradial three-dipole potentials along with the non-adiabatic couplings. We will use these quantities to help qualitatively understand the dynamics as well as quantitatively calculate the recombination rate. The dependence of the recombination rate on the incident energy and the ratio of the dipole length to tube separation will be shown. In addition, we will examine the question of universality for the observables and any impact of short range two-body physics within the tube on the recombination rate.

[1] N. T. Zinner et. al., Phys Rev A 84, 063606 (2011)

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