

Abstract Submitted  
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**Dissociative electron attachment to  $\text{CF}_3\text{Cl}$ : inclusion of two vibrational modes**<sup>1</sup> M. TARANA, Charles University-Prague and University of Nebraska-Lincoln, P. WIELGUS, S. ROSZAK, Wroclaw University of Technology, I.I. FABRIKANT, University of Nebraska-Lincoln — We present a study of multi-mode effects in dissociative electron attachment to  $\text{CF}_3\text{Cl}$  molecules using a time-independent version of the local complex potential theory. Symmetric stretch C-Cl vibrations  $\nu_3$  and symmetric deformation (or so-called “umbrella”) vibrations  $\nu_2$  are included. The neutral and anion potential energy surfaces are calculated using the second-order Moller-Plesset perturbation theory with an empirical adjustment of the vertical attachment energy. The final-state vibrational distribution in the  $\text{CF}_3(\nu_2)$  fragment is dominated by the  $\nu_2 = 2$  state. We also find an increase of the total cross section as compared to one-dimensional calculations. This is explained by an increase of the anion survival probability.

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