

Abstract Submitted
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An updated single electron capture cross section scaling rule for $A^{q+} + H_2$ collisions KEVIN CORNELIUS, Ouachita Baptist University — An updated high energy universal scaling rule for single electron capture cross sections is presented for $A^{q+} + H_2$ collisions. The new scaling rule is built empirically on experimental data using a wide range of projectile ions and collision energies. The inclusion of such a broad range of values resulted in a model that more accurately predicts the single capture cross sections for a wide range of collision systems. The results of the current scaling rule are compared to three previous scaling rules to illustrate how using limited data in the development a universal scaling rule effects a models general predictive power. The reduction effects of all four scaling rules on both experimental and theoretical data are examined.

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