

Kuang's Semi-Classical Formalism for Calculating Electron Capture Cross Sections and Sample Application for ENA Modeling

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Accurate estimates of electron-capture cross sections at energies relevant to ENA modeling (~ few MeV per nucleon) and for multi-electron ions must rely on detailed, but computationally expensive, quantum-mechanical description of the collision process. Kuang's semi-classical approach is an elegant and efficient way to arrive at these estimates. Motivated by ENA modeling efforts, we shall briefly present this approach along with sample applications and report on current progress.

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