Abstract Submitted
for the GEC20 Meeting of
The American Physical Society

Calculation of the single differential cross section for electron-impact ionization of atoms and molecules[1] NICOLAS MORI, RAVSHANBEK UTAMURATOV, DMITRY FURSA, Curtin University, MARK ZAMMIT, Los Alamos National Laboratory, IGOR BRAY, Curtin University — A technique has been developed for calculating the electron-impact ionization single differential cross section directly from the integrated cross sections of positive-energy pseudostates occuring in close-coupling methods. Using the cross sections arising in the convergent close-coupling method, the approach is first tested against the existing benchmark theoretical and experimental data for electron scattering on hydrogen and helium. It is then applied to electron scattering on molecular hydrogen yielding excellent agreement with experimental data when they are normalized to the total ionization cross section.

[1]This work was supported by Curtin University, the Australian Research Council, the Pawsey Supercomputing Centre, an Australian government Research Training Program Scholarship, and Los Alamos National Laboratory.

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Date submitted: 21 May 2020 Electronic form version 1.4