

Abstract Submitted
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NRL Evaluated Plasma Chemistry (nepc): a Python Package for Electron Scattering Cross Sections P.E. ADAMSON, A.S. RICHARDSON, I.M. RITTERSDORF, S.B. SWANEKAMP, U.S. Naval Research Laboratory, D.J. WATKINS, N. KRISHNAKUMAR, Syntek Technologies — The Naval Research Laboratory (NRL) evaluated plasma chemistry (nepc) Python package and associated MySQL database schema are prototype open source tools that support the use of electron scattering cross section data and metadata in plasma physics simulations. It provides access to pre-defined plasma chemistry models and some preliminary functionality for performing exploratory data analysis. The software supports incorporation of cross section data from common sources (e.g. LXCat) and augmentation of the data with additional metadata. The current capabilities and future directions of the Python package, including support for uncertainty quantification studies, will be discussed.

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