Electron-metal atom vapor cross sections maintained within BEAM database

B. P. Marinković[1*], D. Šević[1], S. Ivanović[1], N. Uskoković[1], S. D. Tošić[1], M. S. Rabasović[1] and B. Predojević[2]

[1]Institute of Physics Belgrade, University of Belgrade, Pregrevica 118, 11080 Belgrade, Serbia
[*]E-mail: bratislav.marinkovic@ipb.ac.rs
[2]Faculty of Science, University of Banja Luka, Mladena Stojanovića 2, 78000 Banja Luka, Republic of Srpska, Bosnia and Herzegovina

Belgrade Electron-Atom/Molecule (BEAM) database [http://servo.aob.rs/emol] has been created in order to curate cross sections for electron interactions with atomic and molecular particles and with the aim to be a part (node) of other portals, as well as to fulfil a broader task of maintaining A/M data in a comprehensive way. It became an integral part of two portals: RADAM (Radiation Damage) database [1] and VAMDC (Virtual Atomic and Molecular data Centre) [2,3]. A significant number of entries within BEAM belongs to electron cross sections for metal vapor atoms. Elastic cross sections (Mg, Hg, Ag, Yt, Bi, Rb, Pb, Sb, Cd) and excitation cross sections (Mg, Hg, Ag, Yt, Na, Ca, Bi) have been compiled from the published refereed sources. Data entries within BEAMD follow IAEA classification scheme for processes [4] and use their standards for labelling of atomic states according Pyvalem as a Python package [5].

References

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[5] https://pypi.org/project/pyvalem/ (accessed on 25.11.2021).