

Electron-atom bremsstrahlung: double differential cross section and polarization correlations

Vladimir A. Yerokhin, Andrey Surzhykov

(Submitted on 11 Nov 2010)

The leading-order electron-atom bremsstrahlung is investigated within the rigorous relativistic approach based on the partial-wave representation of the Dirac wave functions in the external atomic field. Approximating the atomic target by an effective local potential, we calculate the double-differential cross section and the polarization correlations in a wide range of the impact energies. Connection between the bremsstrahlung at the hard-photon end point of the spectrum and the continuum-threshold limit of the radiative recombination is studied. A detailed analysis of the screening effect and the energy dependence of the polarization correlations is presented, with the main focus on the high impact energy region.

Subjects: **Atomic Physics (physics.atom-ph)**

Cite as: [arXiv:1011.2743v1](https://arxiv.org/abs/1011.2743v1) [physics.atom-ph]

Submission history

From: V. A. Yerokhin [[view email](#)]

[v1] Thu, 11 Nov 2010 19:36:39 GMT (567kb)

[Which authors of this paper are endorsers?](#)

Link back to: [arXiv](#), [form interface](#), [contact](#).

Download:

- [PDF](#)
- [PostScript](#)
- [Other formats](#)

Current browse context:

physics.atom-ph

[< prev](#) | [next >](#)

[new](#) | [recent](#) | [1011](#)

Change to browse by:

[physics](#)

References & Citations

- [NASA ADS](#)

Bookmark([what is this?](#))

