

Integrated cross sections for electron impact excitation of atomic silver

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Here we present integrated (integral Q_i , momentum transfer Q_M , and viscosity Q_V) cross sections (ICSs) for electron-impact excitation of the $(4d^{10}5s) \ ^2S_{1/2} \rightarrow (4d^{10}5p) \ ^2P_{1/2,3/2}$, $(4d^{10}5s) \ ^2S_{1/2} \rightarrow (4d^95s^2) \ ^2D_{3/2}$ and $(4d^{10}5s) \ ^2S_{1/2} \rightarrow (4d^{10}6s) \ ^2S_{1/2}$ transitions in atomic silver at impact energies E_0 from 10 to 100 eV.

ICSs for all states were derived from the corresponding differential cross sections DCSs at each E_0 . We extrapolated our experimental DCSs to 0° (using the measured results at small scattering angles for resonant transition [1] and corresponding theory for other two states [2]) and 180° (using the RDW calculations for the given energy [2,3]), performed an interpolation, and then undertake the appropriate integration. The new renormalized experimental DCSs for resonant excitation at 20eV and 40 eV were used (see abstract Excitation of silver atoms from the ground S state to the first excited P state by electron impact by S. D. Tošić *et al.*).

References

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