

Abstract Submitted  
for the GEC11 Meeting of  
The American Physical Society

**Cross sections and spin asymmetries for e-Cd scattering**<sup>1</sup> DMITRY FURSA, CHRISTOPHER BOSTOCK, IGOR BRAY, Curtin University — Electron scattering from the ground state of cadmium atoms has been investigated theoretically using the convergent close-coupling (CCC), and relativistic convergent close-coupling (RCCC) methods. Elastic and inelastic differential cross sections, integrated cross sections, and electron impact coherence parameters and spin-asymmetries have been calculated and compared with available experimental and theoretical results. We find, in general, good agreement between the theories and experiment. In particular we find very good agreement with measurements of the Sherman function in elastic scattering of spin-polarized electrons from the ground state of cadmium atom by Bartsch *et al.* [*J. Phys. B* **25**, 1511 (1992)] that have been in serious disagreement with scattering theories for nearly two decades. The unusually rapid variation in the spin asymmetry parameter in the vicinity of 4 eV projectile energy is now explained in terms of unitarity of the close-coupling formalism.

<sup>1</sup>Support of the Australian Research Council and Curtin University is acknowledged.

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Date submitted: 13 Jul 2011

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