

Abstract Submitted
for the GEC10 Meeting of
The American Physical Society

Benchmark data for elastic and inelastic electron collisions with krypton atoms¹ OLEG ZATSARINNY, K. BARTSCHAT, Drake University, H. HOTOP, University of Kaiserslautern, M. ALLAN, University of Fribourg — We have further extended our recent work [1] on elastic and inelastic electron scattering from Kr atoms and obtained new datasets for angle-differential cross sections at selected scattering angles as a function of the projectile energy. Our energy resolution of about 10 meV made it possible to separate many structures and to analyze the resonances in detail. Comparison of the measured data with theoretical predictions from a fully relativistic Dirac *B*-spline *R*-matrix (DBSR) method [2] shows very encouraging agreement.

[1] T.H. Hoffmann, M.-W. Ruf, H. Hotop, O. Zatsarinny, K. Bartschat, and M. Allan, *J. Phys. B* **43** (2010) 085206.

[2] O. Zatsarinny and K. Bartschat, *Phys. Rev. A* **77** (2008) 062701.

¹Work supported by the US National Science Foundation (PHY-0757755 and PHY-0903818), the Deutsche Forschungsgemeinschaft (HO427/28), and the Swiss National Science Foundation (200020-113599).

Klaus Bartschat
Drake University

Date submitted: 01 Jun 2010

Electronic form version 1.4