Abstract Submitted for the GEC07 Meeting of The American Physical Society

Studies into electron-water scattering and transport phenomena MICHAEL BRUNGER, ARC Centre for Antimatter-Matter Studies, Flinders University, Australia, WILLIAM MORGAN, Kinema Research & Software, Monument, Colorado, USA, PENNY THORN, ARC Centre for Antimatter-Matter Studies, Flinders University, Australia — We have developed an integral cross section data base for electron scattering from water. This data base is self-consistent with available total cross section measurements, as will be demonstrated at the meeting. In addition we have used this data base in conjunction with Boltzmann and Monte Carlo swarm coefficient calculations, in order to further check its self-consistency against measured transport coefficients. Finally, the present cross sections are employed to calculate the atmospherically important quantities: (1) electron energy transfer rates and (2) electron impact excitation rates. All these data will also be presented at the meeting.

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Date submitted: 12 Jun 2007 Electronic form version 1.4