Abstract Submitted
for the GEC16 Meeting of
The American Physical Society

Electron transport in furfural: dependence of the electron ranges on the cross sections and the energy loss distribution functions L. ELLIS-GIBBINGS, K. KRUPA, Consejo Superior de Investigaciones Científicas, R. COLMENARES, Hospital Universitario Ramón y Cajal, F. BLANCO, Universidad Complutense de Madrid, A. MUÑOZ, Centro de Investigaciones Energéticas Medioambientales y Tecnológicas, M. MENDES, F. FERREIRA DA SILVA, P. LIMÁ VIEIRA, Universidade Nova de Lisboa, D. B. JONES, M. J. BRUNGER, Flinders Univ, G. GARCíA, Consejo Superior de Investigaciones Científicas — Recent theoretical and experimental studies have provided a complete set of differential and integral electron scattering cross section data from furfural over a broad energy range[1, 2]. The energy loss distribution functions have been determined in this study by averaging electron energy loss spectra for different incident energies and scattering angles. All these data have been used as input parameters for an event by event Monte Carlo simulation procedure to obtain the electron energy deposition patterns and electron ranges in liquid furfural. The dependence of these results on the input cross sections is then analysed to determine the uncertainty of the simulated values.

1D. B. Jones, R. F. da Costa, M. T. do N. Varella, M. H. F. Bettega, M. A. P. Lima, F. Blanco, G. Garca,and M. J. Brunger, J. Chem. Phys. 144, 144303 (2016).
2R. F. da Costa, M. T. do N. Varella, M. H. F. Bettega, R. F. C. Neves, M. C. A. Lopes, F. Blanco, G. Garca, D. B. Jones, M. J. Brunger, and M. A. P. Lima, J. Chem. Phys 144, 124310 (2016).

L. Ellis-Gibbings
Consejo Superior de Investigaciones Científicas

Date submitted: 20 Jun 2016 Electronic form version 1.4