

Abstract Submitted
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Positron Interactions with Biologically Relevant Molecules¹ P. PALIHAWADANA, J.R. MACHACEK, E. ANDERSON, C. MAKOCHEKANWA, J.P. SULLIVAN, CAMS, Australian National University, Canberra, Australia, G. GARCIA, CSIC, Madrid, Spain, M.J. BRUNGER, CAMS, Flinders University, South Australia, S.J. BUCKMAN, CAMS, Australian National University, Canberra, Australia — A series of measurements of positron interactions with biologically relevant molecules have been undertaken. We present both total scattering and differential scattering cross sections for Uracil ($C_4H_4N_2O_2$), Tetrahydrofuran or THF (C_4H_8O), 3-hydroxy-THF ($C_4H_8O_2$) and Pyrimidine ($C_4H_4N_2$). These measurements are absolute and include the positronium formation cross section which is important to investigations of positron transport in biological systems. The energy of the magnetically confined positron beam can be tuned between 1 and 200 eV, and the energy resolution of the beam is between 60 and 100 meV. We will discuss the experimental techniques, the sources of systematic errors which limit the current results, and prospects for the future.

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