Abstract Submitted
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Low energy positron beam studies JIM WILLIAMS, University of Western Australia, VALDIMIR PETROV, St. Petersburg State Polytechnical University, SUDARSHAN KATHI, SERGEY SAMARIN, PAUL GUAGLIARDO, University of Western Australia, ALEX WEISS, SUARABH MUKHERJEE, University of Texas at Arlington — Measurements of positrons interacting with atoms and surfaces indicate surface structure and scattering dynamics. The positron beam has an energy range from about 1 to 900 eV, an expected polarization of about 20% and intensity of 1000 counts/sec in a 10 mm radius on a microchannel plate detector used in retarding potential mode. A W(100) single crystal at 10^{-10} mbar supports the growth of Fe thin films. Results indicate the elastic and inelastic scattering of positrons, generation of secondary electrons, re-emission of thermalized positrons normal to different surfaces and various scattering mechanisms.

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