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Low energy positron sticking on surfaces – comparison of experiment and calculations S. MUKHERJEE, K. SHASTRY, U. Texas at Arlington, N. G. FAZLEEV, U. T. Arlington, A. H. WEISS, U. Texas at Arlington — Recent measurements have provided evidence that low energy positrons incident upon a metal surface can make a single step transition from an unbound scattering state to an image potential bound state resulting in the creation of an electron-hole pair. Because the transition into the surface state results in the release of an additional ~ 3 eV of energy as compared to a transition into a bulk state, the direct transition from scattering state to surface state can result in the creation of secondary electrons even at beam kinetic energies below the energy threshold necessary to generate secondary electrons in scattering processes in which the positron final state is a bulk state. In this poster we present a comparison of the experimental results with model calculations from which the rate of the direct process is estimated and the implications of these measurements in the understanding of quantum-sticking of positrons to surfaces are considered.

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