

Abstract Submitted
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Resonant neutralization of hydrogen anions near the Be(0001) surface¹ NATHAN BROWN, HIMADRI CHAKRABORTY, Northwest Missouri State University, Maryville, MO 64468, UWE THUMM, Kansas State University, Manhattan, KS 66502 — The resonant charge transfer interaction between atomic ions and metal surfaces is a tool to examine the surface electronic structure and its associated implications to the surface chemistry. Using a Crank-Nicholson propagation technique we simulate and visualize the dynamical electron distribution during a charge transfer reaction of a hydrogen anion with a plane Be (0001) surface. The time-dependent information as the ion evolves, that is, as it decays and captures, is obtained and the final ion survival probability is determined. Comparisons with previous results involving Cu and Pd surfaces [1] uncover the dependence of the ion survival on the size, position and detailed structure of the surface electronic band gap. [1] Chakraborty et al., *Nucl. Instrum. Meth. B* **241**, 43 (2005)

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