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Secondary Electron Emission (SEE) Calculations HAROLD P. HJALMARSON, RONALD P. KENSEK, Sandia National Laboratory, KENNETH E. KAMBOUR, Air Force Research Laboratory — Secondary electron emission (SEE) from solids is a consequence of energy loss by charged particles such as electrons. One important energy loss mechanism to be considered involves plasmon emission by the charged particle. Plasmons create electron-hole pairs when they decay. Under certain conditions, a sufficiently energetic electron, a secondary electron, may be emitted from the solid surface. In this presentation, results from two different approaches to this process will be presented. A particle-based Monte Carlo method and a continuum method will be used for these calculations. The results from the two different methods will be compared to each other to understand the effects of the various approximations in the two methods. The methods will be illustrated by an application to titanium dioxide (rutile). –Sandia National Laboratories is a multi-program laboratory managed and operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.

Harold P. Hjalmarson
Sandia National Laboratory

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