

Remarks on channeling radiation

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For satisfactory determination of the radiation power emitted when an electron/positron beam interacts with the electrostatic lattice potential within a crystal film, the number of bound states and their population have to be known. A relative simple procedure to calculate these two, based on matrix method, is presented. Results are in full accordance with literature. While some physical insights are investigated, a full equivalence to the propagation of an electromagnetic wave in a dielectric slab is demonstrated.