

RESISTIVE WALL WAKE FIELDS IN THE HIGH-FREQUENCY AC CONDUCTIVITY REGIME

R. M. Jones, UMAN, Manchester;
J. A. Clarke, D. J. Scott, Cockcroft Institute, Warrington, Cheshire

Abstract

We investigate the resistive wall wake fields in both the main L-band linacs and positron source undulators of the ILC (International Linear Collider). The influence of a.c. conductivity on the beam impedance is studied in both systems. We focus on the influence of high frequencies on the impedance and the corresponding wake field. We include effects due the classical skin depth, anomalous skin depth, and the extreme anomalous skin depth. The wake field and corresponding energy spread induced in the beam is simulated for all three regimes.

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