

Abstract

Introduction to Multipactor Discharge

Rami Kishek
University of Maryland

Multipactor is a vacuum discharge based on secondary electron emission, and is widely seen in a variety of accelerator, microwave, and space-borne systems. This course will present an overview of the current knowledge on multipactor and relevant literature. A basic theoretical model of multipactor will be presented, enabling basic calculations. More advanced approaches will be discussed, along with a brief review of experimental and computational approaches.

Biographical Summary

Rami A. Kishek is a Research Professor at the University of Maryland, where he leads research on the University of Maryland Electron Ring, a small accelerator for investigating space charge dynamics. He received his Ph.D. (1997) in Nuclear Engineering from the University of Michigan, Ann Arbor. Kishek is a Fellow of APS and a Senior Member of IEEE, and 2015 recipient of the USPAS Prize for Achievement in Accelerator Physics and Technology. He has published over 200 scientific papers and has over 1750 citations to his work. He has made groundbreaking contributions to multipactor theory, and is an expert on space charge effects in beams, computation, and nonlinear dynamics.