Electromagnetic Characterization of Damage in Complex Dielectrics

Nathan Gibson
Mathematics, Oregon State University
gibsonn@math.oregonstate.edu

H.T. Banks
Center for Research in Scientific Computation
N.C. State University
htbanks@ncsu.edu

William P. Winfree NASA Langley Research Center William.P.Winfree@NASA.GOV

Abstract

We present results from our computational efforts to determine defect characteristics via solution of inverse problems which involve Maxwell's equations coupled with mechanisms for attenuation/scattering in dielectrics. These problems are motivated by the need to detect cracks in the sprayed on foam insulation (SOFI) on the Space Shuttle.