Abstracts

A novel adaptive approach to modeling MEMS tunable capacitors using MRTD and FDTD techniques

N. Bushyager, M.M. Tentzeris, L. Gatewood and J. DeNatale. "A novel adaptive approach to modeling MEMS tunable capacitors using MRTD and FDTD techniques." 2001 MTT-S International Microwave Symposium Digest 01.3 (2001 Vol. III [MWSYM]): 2003-2006 vol.3.

This paper introduces a novel full wave technique for modeling MEMS tunable capacitors that is based on the coupling of physical motion of the MEMS device with Maxwell's equations through the modification of the MRTD/FDTD techniques. The difficulties of modeling MEMS devices are discussed, and ways to compensate for several of these are presented. The proposed approach is validated through comparison of simulation results to measurement for an interdigitated capacitor.

❑ Return to main document.