Application of the FDTD Method to the Capacitor Structure for Static Field Demonstration and Capacitance Calculation

In this paper, the FDTD method is employed to analyze the E field distribution and the capacitance era parallel plate capacitor structure. Via the use of the transparent current source, the capacitor can be charged such that the transient and static E field distribution can be simulated using the FDTD update equation and the capacitance is obtained without the use of traditional MOM method.