**Abstract**

Thin film capacitors of Al-EuF3-Al were formed onto well-cleaned glass slides by vacuum evaporation under a pressure of 2.66 × 10−3Pa. The structure of the europium fluoride film was found to be amorphous. From aging studies of the capacitor, it was found that the capacitance becomes almost constant after about 60 days. Two cycles of annealing at 353 K were required to stabilize the film. A large increase in capacitance was observed in the low frequency region, indicating the possibility of interfacial polarization. The frequency dependence of tan δ at various temperatures shows a loss minimum which shifts to higher frequencies with increasing temperature. The activation energy was calculated. The frequency dependence of conductivity and the low value of the activation energy suggest that the conduction mechanism is due to electronic hopping. D.c. conduction studies reveal a space charge conduction mechanism in europium fluoride films. The dependence of breakdown field on thickness and the temperatures show that this film obeys the Forlani-Minnaja theory.