BULETINUL INSTITUTULUI POLITEHNIC DIN IAŞI
Tomul LII(LVI), Fasc. 3-4, 2006
ELECTROTEHNICĂ. ENERGETICĂ. ELECTRONICĂ

OPTIMAL DESIGN OF A DIELECTRIC HEATING APPLICATOR USING EVOLUTIONARY STRATEGY

BY

CAMELIA PETRESCU

A planar staggered-through RF field applicator used in dielectric heating is optimized with respect to power density uniformity and to the total absorbed power. Optimization is based on evolution strategy. Electric field is calculated using the Green function determined for the applicator configuration. It is shown that by introducing a guard electrode the non-uniformity drops under 10% in the whole dielectric, while the total power increases in the optimal configuration.