

New algorithm for evaluation of electric fields due to indirect lightning strike

ABSTRACT

Evaluation of electric field due to indirect lightning strike is an interesting subject. Calculation of electric and magnetic fields in time domain with the consideration of ground conductivity effect in the shortest possible time is an important objective. In this paper, using dipole method, Maxwell's equation and Cooray-Rubinstein formula, a new method for calculation of electric field in time domain is proposed. In addition, this proposed algorithm can also be used to evaluate the effect at the far distance cases of observation point from lightning channel.

Keyword: Electric fields; Maxwells equation; Ground conductivity effect