

In this paper, charge build-up for nonpolarity fluoropolymer (such as Teflon FEP, Teflon PFA and Teflon PTFE, etc.) by means of constant voltage and constant current corona charging is studied and we have come to the conclusion that more charge density is injected in the bulk by using constant current corona charging. After comparing isothermal surface potential decays and open-circuit TSD current spectra with constant voltage and constant current charging conditions on Teflon PFA, it is noticed that the charge storage stability can be improved significantly by means of constant current corona charging. After studying the geometric distributions of traps with different energies in the Teflon PFA films and comparing different shifts of mean charge depth between constant current and constant voltage corona charged Teflon PFA at the elevated temperature, we found the improvement of charge storage stability by constant current corona charged nonpolarity fluoropolymer is due to the structure feature of the material.