

Abstract: A new system for measuring space charge distribution in solid dielectrics is presented. This system can be used for the piezoelectric pressure wave propagation method (piezo-PWP) and for the pulsed electroacoustic method (PEA). Both the principle of this system and the matching of acoustic impedance are mentioned. The piezo-PWP method and the PEA method can be combined into a same main structure. In the system, a thin -PVDF film is used as an acoustic pulse generator in PWP method and as a piezoelectric measuring device in PEA method. For this combined system, the experimental results show that the resolution of the piezo-PWP is in same order than the PEA method. But the sensitivity of the PEA is higher than the piezo-PWP method.