

Abstract: The distribution of trap levels in the LLDPE (linear low density polyethylene) is studied by means of photo-stimulated discharge (PSD). And two scanning manners, continuous scanning and step scanning, are discussed. It is pointed out that there may be some problems because of the incomplete detrapping of the trapping charges for the continuous scanning. The principle and the experimental process for the step scanning were presented. It is found that there is linear relationship between the logarithm of PSD current produced under the irradiation of the monochromatic light and the time. It accords with the theoretical analysis and demonstrates that the retrapping effect of the carriers can be neglected. The charges were in the levels of 4.36–6.22 eV, and the majority of which were trapped in the energy levels around 4.97 eV in LLDPE.