# Teknologi Indonesia



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Abstrak

The effect of the electric field polarization on the thermal diffusivity of biaxially strechted poly (ethylene terephtalate) PET films had been examined. The change in the Thermal diffusivity as a function of temperature was measured by temperature wave analysis (TWA) technique. The thermal diffusivity at room temperature increases with the increasing of the polarization electric field. The thermal diffusivity decreases with the increasing of the temperature. The decrease of thermal diffusivity by the increase of temperature could be caused by the effect of carbonyl depolarization. The glass transition temperature, Tg, decreased with the increasing of the polarization electric field. The increase of thermal diffusivity is due to the increase of carbonyl polarization of the PET. Segmental orientation of carbonyl in the thickness direction played an important role in the thermal diffusivity. These results implied that the temperature dependence of the thermal diffusivity was related to the change of the dipolar relaxation and microstructure of PET.