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Determination of the Glass Transition Temperature of Freestanding and Supported Azo-Polymer Thin Films by Thermal Assisted Atomic Force Microscopy

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Abstract

© The Authors, published by EDP Sciences, 2017. In this paper we introduce and apply the method for determination of the glass transition temperature of the sub-100 nm thick freestanding and supported polymer films based on thermally assisted atomic force microscopy (AFM). In proposed approach changes of the phase of an oscillating AFM cantilever are used to determine glass transition temperature. An anomalous decrease of the glass transition temperature for both free-standing and supported azobenzene-functionalized polymer thin films is shown.

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