عنوان مقاله:

Transfer function analysis for drift compensation in nanomanipulation inverse control

محل انتشار:

دهمین کنفرانس ملی مهندسی ساخت و تولید (سال: 1388)

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خلاصه مقاله:

This paper addresses a new approach for complete driftmodeling and compensation on the Scanning Probe Microscopes (SPMs). Drift is described as remained error after hysteresis and creep compensation and could seriously affect the SPM's performance. The comprehensive model introduced here is effective, simple and mathematically traceable.Although an analytical relation is introduced for heat generation in piezotubes, for piezo scanners, micro cantilever and substrate as micro components, the current relations are used. Transfer function analysis is an effective schematical approach for drift showing.Comparing experimental results show that in both modes this model is effective and introduces a new approach for velocity-independent drift modeling.

کلمات کلیدی:

Scanning Probe Microscope, Drift, Nano manipulation, Transfer function analysis

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