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Abstract for an Invited Paper  
for the MAR06 Meeting of  
the American Physical Society

**Single Molecule Dynamics of Polymers Confined in Nanochannels<sup>1</sup>**

ROBERT AUSTIN, Princeton University

I will review our work on the conformational dynamics of polymers, in particular genomic length DNA molecules, in nanochannels whose diameter is less than the persistence length of the polymer. I will discuss how these dynamics give some insight into how nanochannels can be used for the next generation of single molecule mapping/sequencing techniques.

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