

Abstract Submitted
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Single-molecule tracking of DNA and actin KEJIA CHEN, STEPHEN ANTHONY, BO WANG, JAMES KUO, STEVE GRANICK, university of Illinois at Urbana-Champaign — Our newly-developed particle-tracking methods enable us to track not only center-of-mass position, as is classical to do, but also internal degrees of freedom. This is illustrated in studies of how actin filaments diffuse through entangled actin networks and also how lambda-DNA diffuses through entangled actin network. In both cases, we track configurational rearrangements of the moving objects, in movies consisting of time series with thousands of sequential images. The algorithm developed is generic enough to be applied to other systems with irregular-shaped objects.

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