

The fluctuation and the rigidity study of F-actin filaments in a confined space

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Filamentous actin (F-actin) is a two stranded long helix that performs structural function in eukaryotic cells. F-actin had been assembled from Alexa-labeled G-actin and had been confined in microchannel. The fluctuation of single filaments was observed by fluorescence optical microscopy. We measured Tangent-tangent Correlation Function $G(s)$ (where s is the distance along the contour of the chain), which tells us the confining wall effect of wormlike semi-flexible polymers as well as the flexural rigidity, such as persistence length.