

Stuttgarter Physikalisches Kolloquium

Fachbereich Physik, Universität Stuttgart
Max-Planck-Institut für Festkörperforschung
Max-Planck-Institut für Intelligente Systeme

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Universität Stuttgart, Pfaffenwaldring 57, 70569 Stuttgart-Vaihingen

Gastgeber: Prof. Dr. Christian Holm, Universität Stuttgart, Telefon: 0711 - 685-63701

Nanoscale Dynamics of Biological Polymers

Ben Schuler
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Abstract

Proteins are the most versatile components of the molecular machinery of life. We use single-molecule fluorescence spectroscopy to study their dynamics on timescales from nanoseconds to hours, even in complex environments, including living cells. In particular, we focus on intrinsically disordered proteins, which do not fold into a well-defined three-dimensional structure and whose behavior can often be rationalized in terms of polymer physics. A mechanistic understanding of biomolecular dynamics is becoming increasingly accessible through the synergy of biophysical experiments with polymer theory and molecular simulations.