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Title:	Morphological and dynamical properties of semiflexible filaments driven by molecular motors
Authors:	Gupta, Nisha (/jspui/browse?type=author&value=Gupta%2C+Nisha) Chaudhuri, A. (/jspui/browse?type=author&value=Chaudhuri%2C+A.)
Keywords:	Semiflexible Filament moving Dimensions
Issue Date:	2019
Publisher:	American Physical Society
Citation:	Physical Review E, 99(4).
Abstract:	We consider an explicit model of a semiflexible filament moving in two dimensions on a gliding assay of motor proteins, which attach to and detach from filament segments stochastically, with a detachment rate that depends on the local load experienced. Attached motor proteins move along the filament to one of its ends with a velocity that varies nonlinearly with the motor protein extension. The resultant force on the filament drives it out of equilibrium. The distance from equilibrium is reflected in the end-to-end distribution, modified bending stiffness, and a transition to spiral morphology of the polymer. The local stress dependence of activity results in correlated fluctuations in the speed and direction of the center of mass leading to a series of ballistic-diffusive crossovers in its dynamics.
Description:	Only IISERM authors are available in the record.
URI:	<a href="https://journals.aps.org/pre/abstract/10.1103/PhysRevE.99.042405">https://journals.aps.org/pre/abstract/10.1103/PhysRevE.99.042405</a> ( <a href="https://journals.aps.org/pre/abstract/10.1103/PhysRevE.99.042405">https://journals.aps.org/pre/abstract/10.1103/PhysRevE.99.042405</a> ) <a href="http://hdl.handle.net/123456789/2113">http://hdl.handle.net/123456789/2113</a> ( <a href="http://hdl.handle.net/123456789/2113">http://hdl.handle.net/123456789/2113</a> )
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