

Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Knotted polymers in nanopores: static and dynamical properties

ANTONIO SUMA, CRISTIAN MICHELETTI, SISSA — Knots arise spontaneously in sufficiently long polymers, especially when they are densely packed due to spatial confinement. We report here on a theoretical and computational characterization of model DNA chains confined in nanochannels. We will first focus on the equilibrium knotting probability and then report on the dynamical mechanisms through which knots are spontaneously formed and eventually untied in the confined chains ¹. The case of knotted polymers chains translocating through narrow pores will also be discussed ².

¹A. Suma, E. Orlandini and C. Micheletti. *J. Phys. Condens. Matter* 27.35 (2015): 354102.

²A.Suma, A. Rosa and C. Micheletti. *ACS Macro Letters*, 2015, 4(12), 1420-1424.

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Date submitted: 22 Nov 2016

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