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Driving magnetic colloidal polymers[1] JOSHUA DEMPSTER, Northwestern University, MONICA OLVERA DE LA CRUZ, Northwestern University Department of Materials Science — Magnetic colloids are of growing interest for applications such as drug delivery and in vitro tissue growth. Recent experiments have synthesized 1D chains of magnetic colloids into permanent colloidal polymers. We study magnetic colloidal polymers theoretically and computationally under the influence of time-varying external fields and find a rich set of controllable, dynamic conformations. By iterating through a sequence of conformations, these polymers can perform mechanical functions. We discuss possible roles for these polymers beyond those considered for single colloids.

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