Abstract Submitted
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Confocal Rheometry of Active Networks[1] DANIEL CHEN, STEPHEN DECAMP, Brandeis University, Dept. of Physics, DANIEL BLAIR, Georgetown University, Dept. of Physics, ZVONIMIR DOGIC, Brandeis University, Dept. of Physics — While much is known about the rheological responses of passive biopolymer networks, we currently lack a conceptual framework to describe active networks under shear. To this end, we have engineered an active gel composed of microtubules, bidirectional kinesin motors, and molecular depletant that self-organizes into a highly dynamic network of bundles. The network continually remodels itself under ATP-driven cycles of extension, buckling, fracturing, and self-healing [1]. In this talk I will present comprehensive confocal rheometry measurements elucidating the interplay between the network's dynamic morphology and its linear and non-linear rheological responses. [1] T. Sanchez, D.T.N. Chen, S.J. Decamp, M. Heymann, and Z. Dogic Nature 491 (7424), 431-434 (2012)

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