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**Flexural Rigidity of MCF-7 Microtubules Measured from Thermal Fluctuations in Shape** MITRA SHOJANIA FEIZABADI, Physics Department, Seton Hall University, KIRYAKO MUTAFOPULOS, Biology Department, Seton Hall University, ADAM BEHR, Physics Department, Seton Hall University
— Microtubules play a key role in the mechanical and elastic properties of eukaryotic cells. For this reason, measuring the flexural rigidity of bovine brain microtubules have been extensively investigated through different methods of measurement. Beta tubulin isotypes, a noticeable trait to consider as we transfer from mammalian neural microtubules to mammalian non-neural microtubules, are assembled differently in distributions among various types of microtubules. Different studies have shown that microtubules made from different beta-tubulin isotypes express unique polymerization and dynamic behavior. This study focuses on measuring mechanical properties of one of non-neural microtubules, MCF-7. We will discuss the structure differences between brain bovine microtubules and MCF-7, along with the rigidity of single microtubules polymerized from MCF-7 tubulin through monitoring the curvature of microtubule due to thermal fluctuations.

Mitra Shojania Feizabadi
Physics Department, Seton Hall University

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