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Microtubule Dynamics Interacting with Stabilizing Agents in a Cell-like Environment MITRA SHOJANIA FEIZABADI, Seton Hall University — Microtubules, key components of the cytoskeleton, are involved in several biological functions. They are highly dynamic polymers that stochastically switch between growing and shrinking phases. Due to their critical role in the process of cell division, they are the target of anti-cancer drugs. Antimitotic drugs usually suppress the dynamic instability of microtubules and, therefore, affect the process of cell division. In this work, the dynamic of microtubules interacting with catastrophe suppressing drugs as stabilizing agents, introduced by Mishra et al. (Phys. Rev. E. 72, 51914, 2005), is modified in a confined geometry and associated with the obtained and analyzed steady state solutions.

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