Order-order Nucleation in Copolymers: A String Method Approach[1] XIUYUAN CHENG, PACM, Princeton University, WEINAN E, PACM, Princeton University; SMS, Peking University, PINGWEN ZHANG, SMS, Peking University, ANCHANG SHI, Department of Physics and Astronomy, McMaster University, Canada, CHU WANG, SMS, Peking University — The mechanism of nucleation in order-order phase transitions of block copolymers is an interesting problem presenting both theoretical and numerical challenges. In this talk we will introduce our recent work of applying the string method to the order-order nucleation in diblock copolymer. We use the self-consistent field model, and search for the saddle point of the free energy functional by solving a variational problem. We will also talk about a study of the epitaxial relation between ordered phases (work by Wang Chu et al.), which verifies one of the assumptions taken by the numerical method beforehand.

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