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Extensive active suspension ANSHENG JHANG, MICHEAL SHELLEY, NYU — A suspension of rod-like growing particles, like a suspension of self-propelled particles, can exhibit complex dynamics as a result of long-ranged hydrodynamic interactions. Such suspensions can occur in bacterial colonies, liquid crystals phase transitions, or micro-tubules with kinesin. As they grow, they exert stress on the fluid which is similar to the case of swimming pushers. We use a kinetic model to study the dilute limit case. We will discuss the cases in terms of domain shapes like periodic boundary domains, simply connected domain, and annulus like domain.

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