

Abstract Submitted  
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**Locomotion of spherical squirmers in a viscoelastic fluid near a planar interface** SHAHRZAD YAZDI, ALI BORHAN, Pennsylvania State University — In an attempt to better understand the confined swimming of a microorganism in a viscoelastic fluid, we have analytically studied the time-averaged locomotion of a spherical squirmer with a reciprocal surface motion near a plane interface in a polymeric solution. The results are presented through a phase-portrait in the swimming orientation and distance from the interface. The ratio of viscosities of the two phases adjacent to the plane interface is varied to examine motion near different types of boundaries. Our analysis shows that the near-wall attraction layer previously reported for a 2D squirmer no longer exists for spherical pullers and pushers. However, the presence of a stable node attracts the swimmer to the vicinity of the wall.

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