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Quentin Brosseau* (qb3@nyu.edu), 251 Mercer Street, New York, NY 10012, and **Florencio Balboa-Usabiaga, Enkeleida Lushi, Yang Wu, Leif Ristroph, Jun Zhang, Mike Ward** and **Mike Shelley**. *Dynamics and interactions of asymmetric bimetallic microswimmers*.

We explore the impact of loss of symmetry in bimetallic Au-Pt rod-like microswimmers. These swimmers are known to exhibit complex individual and collective behaviors. As a proxy for change in swimmer type, e.g. pushers and pullers, we conduct experiments on swimmers with different relative lengths of their two metallic segments. We model the rods' reactive region as a region of fluid slip. Numerical simulations show that a non-centered position of the slip-region along the rod allow for a transition from a extensile to contractile force dipole in the disturbance fluid flow. The changes in the generated flow field, which affect interactions with other rods and boundaries, are here evidenced by the analysis of the swimmers rheotactic abilities and their motion near obstacles. (Received July 31, 2018)