

Abstract Submitted
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Ellipsoidal Brownian self-driven particles in a magnetic field¹

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— We study the two-dimensional Brownian dynamics of an ellipsoidal paramagnetic
microswimmer moving at low Reynolds number and subject to a magnetic field. Its
corresponding mean-square displacement showing the effect of particle shape, ac-
tivity, and magnetic field on the microswimmers diffusion is analytically obtained. A
comparison among analytical and computational results is also made and we obtain
good agreement. Additionally, the effect of self-propulsion on the transition time
from anisotropic to isotropic diffusion of the ellipse is also elucidated.

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