

Abstract Submitted
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Diffusion of torqued active Brownian particles FRANCISCO J SEVILLA, Instituto de Física, Universidad Nacional Autónoma de México — An analytical approach is used to study the diffusion of active Brownian particles that move at constant speed in three-dimensional space, under the influence of passive (external) and active (internal) torques. The Smoluchowski equation for the position distribution of the particles is obtained from the Kramer-Fokker-Planck equation corresponding to Langevin equations for active Brownian particles subject to torques. In addition of giving explicit formulas for the mean square-displacement, the non-Gaussian behavior is analyzed through the kurtosis of the position distribution that exhibits an oscillatory behavior in the short-time limit. FJS acknowledges support from PAPIIT-UNAM through the grant IN113114

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