































Fig. 6. The MSADs of simulated pentahedra ( $R = \sqrt{3} \mu\text{m}$ ) with diffusion coefficients  $D_R = 10^{-4} \text{ rad}^2/\text{ts}$  and  $D_R = 10^{-2} \text{ rad}^2/\text{ts}$  and  $\sigma_x = 50 \text{ nm}$ . Dashed lines show the uncorrected MSAD described below and solid lines are corrected data, obtained by multiplying the dashed lines by  $2/3$ . Open circles are the theoretical MSAD from Eq. (20). We note that we have approximated diffusive motion by a single  $D_R$  for each pentahedron, as described in section 3.

overestimation of motion by simply multiplying the MSAD by  $2/3$ . The average MSAD for any body can be corrected in the same manner, however we stress that this method returns only the average dynamics. While more direct than using an orientation vector, characterizing anisotropic bodies in this way will convolute motions about separate axes, and so will require some care when interpreting results.

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