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Angular dynamics of small crystals in viscous flows[1] JOHAN FRIES, JONAS EINARSSON, BERNHARD MEHLIG, Department of Physics, Gothenburg University — The angular dynamics of a very small ellipsoidal particle in a viscous flow decouples from its translational dynamics, and the particle angular velocity is given by Jefferys theory. It is known that cuboid particles share these properties. In the literature a special case is most frequently discussed, that of axisymmetric particles, with a continuous rotational symmetry. Here we compute the angular dynamics of crystals that possess a discrete rotational symmetry and certain mirror symmetries, but that do not have a continuous rotational symmetry. We give examples of such particles that nevertheless obey Jefferys theory. But there are other examples where the angular dynamics is determined by a more general equation of motion.

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