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Effects of aspect ratio on the phase diagram of spheroidal particles[1] SONGUL KUTLU, JASON HAAGA, JEFFREY RICKMAN, JAMES GUNTON, Lehigh University — Ellipsoidal particles occur in both colloidal and protein science. Models of protein phase transitions based on interacting spheroidal particles can often be more realistic than those based on spherical molecules. One of the interesting questions is how the aspect ratio of spheroidal particles affects the phase diagram. Some results have been obtained in an earlier study by Odriozola (J. Chem. Phys. 136:134505 (2012)). In this poster we present results for the phase diagram of hard spheroids interacting via a quasi-square-well potential, for different aspect ratios. These results are obtained from Monte Carlo simulations using the replica exchange method. We find that the phase diagram, including the crystal phase transition, is sensitive to the choice of aspect ratio.

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