Title:	Phase Separation in Colloids in the Presence of Activity
Authors:	Nampoothiri, Vishnu N. (/jspui/browse?type=author&value=Nampoothiri%2C+Vishnu+N.)
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Abstract:	In this work, we study the phase separation of brownian particles driven by activity. These particles which are self propelled with the direction of motion relaxing through rotational diffusion. As in [Redner 13] we first show that the suspension of ABPs, modelled as discs, can cluster even in the absence of an attractive interaction. Next, as in [Stenhammar 15] we look at binary mixture of active and passive particles and show activity induced phase separation of two. We look at the orientational order parameter to understand the structural properties of the clustered state.
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