Confined dynamics of non-aligning self-propelled particles in the small box limit YAOUEN FILY, APARNA BASKARAN, MICHAEL HAGAN, Brandeis University — Recent years have brought the realization that even the simplest of active particle models can exhibit rich behavior. Here we study the confined dynamics of non-aligning self-propelled particles when the size of the confining box is small compared with the distance traveled by a particle before its orientation decorrelates. Using a combination of analytical and computational tools, we characterize the inhomogeneities of the density for a class of box shapes.

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