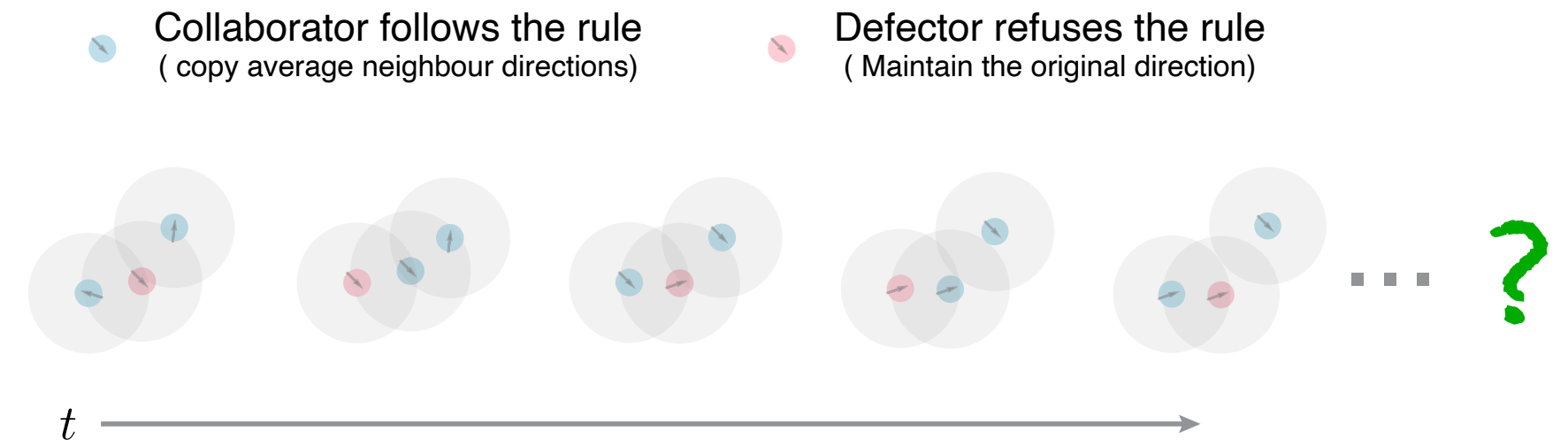
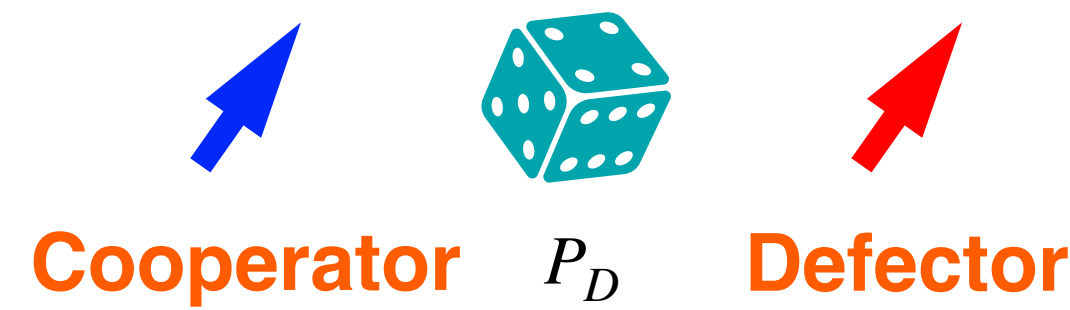
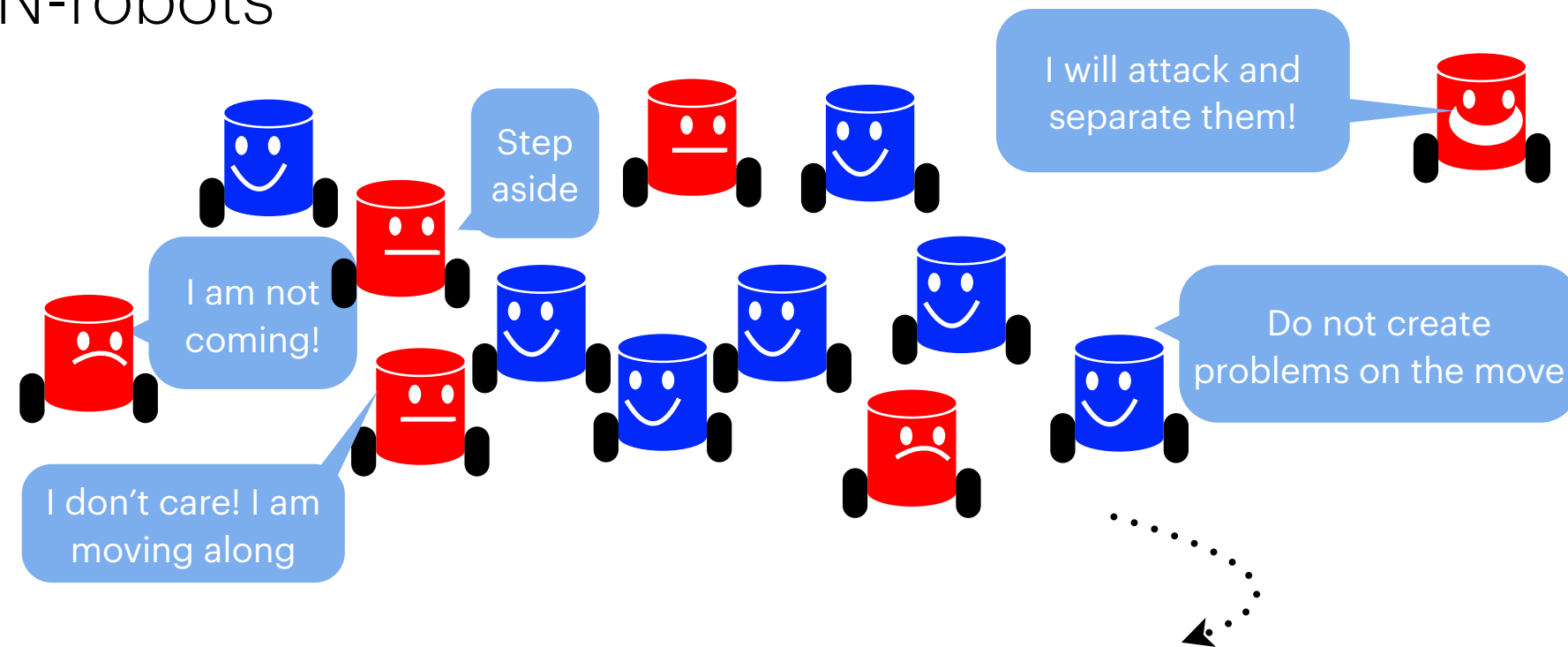


Impact of Individual Defection on Collective Motion

Swadhin Agrawal, Jitesh Jhawar, Andreagiovanni Reina, Sujit P. Baliyarasimhuni, Heiko Haman, and Liang Li

N-robots

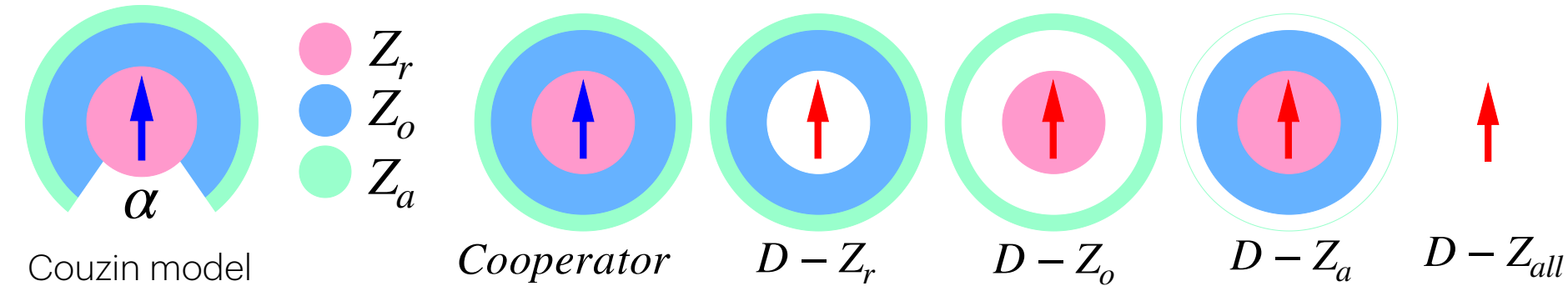


$$p(t) = \frac{|\sum_{i=1}^N \hat{v}_i(t)|}{N} \quad e(t) = - \sum_{i=1}^N (\omega_i)^2(t) \quad E = \frac{1}{N(t_{max} - T)} \sum_{t=T}^{t_{max}} e(t)$$

Zonal model

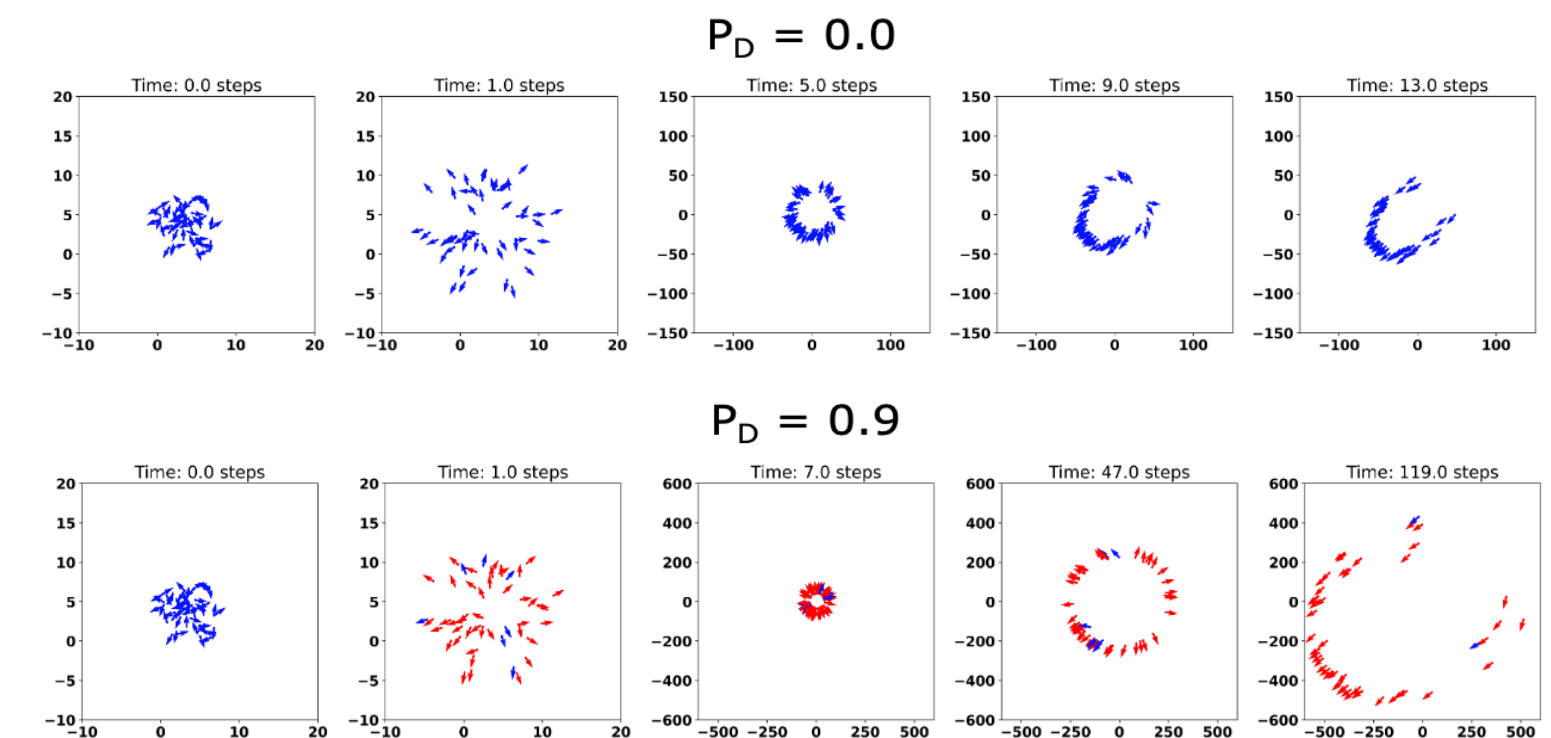
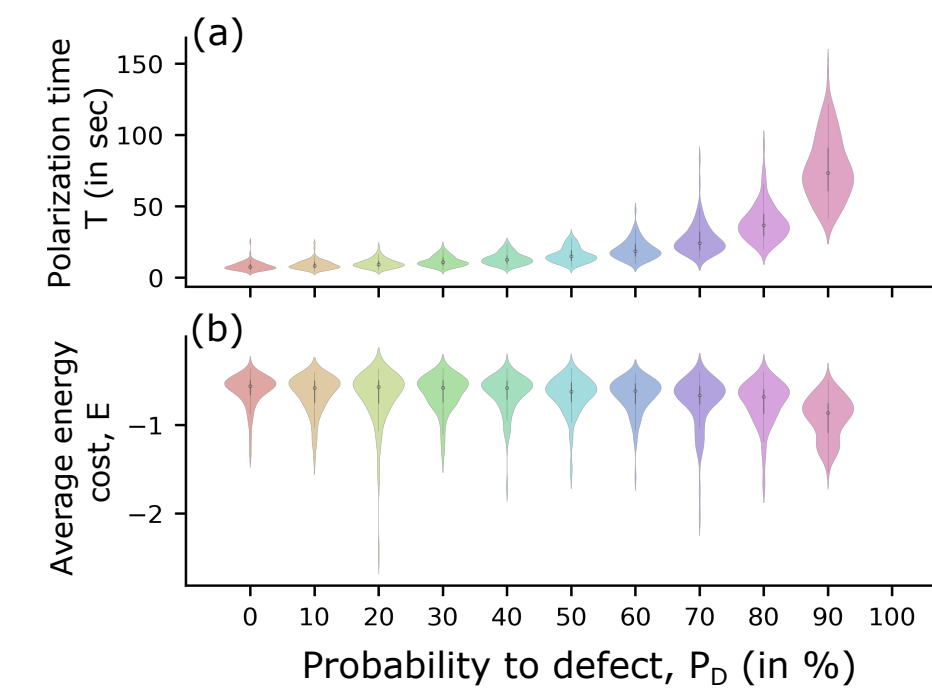
Highly parallel formation

Couzin et. al. 2002

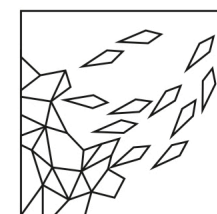


Pairwise interaction model

Jhawar et. al. 2020



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