RAZVAN FETECAU, Simon Fraser University
Collective behaviour with intrinsic interactions on Riemannian manifolds

We consider a model for collective behaviour with intrinsic interactions on Riemannian manifolds. Such models can have applications in biology or robotics, where biological agents/robots are restricted by environment or mobility constraints to remain on a certain manifold. We provide a framework for constructing interaction potentials which lead to equilibria that are constant on their supports. We consider such potentials for two specific cases (the two-dimensional sphere and the two-dimensional hyperbolic space) and investigate analytically and numerically the long-time behaviour and equilibrium solutions.