
ALMUT BURCHARD,

On a non-local shape optimization problem related with swarming

I will discuss recent work with Rustum Choksi and Ihsan Topaloglu on a shape optimization problem where the energy functional is given by an attractive/repulsive interaction potential in power-law form. A natural conjecture is that balls minimize this energy for large mass, and minimizers fail to exist if the mass falls below a certain critical threshold. We have partial results that support this view.