

## **Numerical experiments with minimal Riesz energy point configurations on spheres and tori**

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Finding the configuration of  $m$  points on a  $d$  dimensional manifold (for example the unit sphere or a torus) that minimizes the Riesz  $s$ -energy is a classical problem of widespread interest. Determining such point sets is a nonlinear optimization problem characterized by many local minima with function values close to the global minimum. This talk gives the results of numerical experiments to determine (close to) global optimal configurations.

These experiments serve to illustrate the remarkable results of Hardin and Saff that asymptotically the minimum energy configuration is uniformly distributed for  $s \geq d$ .