

Large Generic Open Subsets of Spheres

Joint work with Brendan Owens and Robert Bieri.

Choose a finite set of points on a Euclidean sphere S^{n-1} in n -space. With probability 1 any n of the chosen points will lie in an open hemisphere. We call this property n -tameness because it is related to the Bieri Neumann Strebel invariant and the terminology used there for conjectures about metabelian groups. In this talk we look at open sets satisfying this generic n -tameness condition and we find that they satisfy some remarkable finiteness condition. Under the small assumption that there are finitely many components, these n -tame sets are essentially finite unions of convex spherical polyhedra.