TEXAS STATE UNIVERSITY

Department of Mathematics Colloquium

Making Comparisons: Which Crumpled Cube is Wilder?

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3:30 - 4:30pm
DERR 329

The existence of wildly embedded spheres in 3-space has been recognized for almost 100 years. While practitioners have developed a rich variety of conditions under which the sphere is equivalent to the standard model (i.e., no wildness), they have done little to catalog the various types of wildness. We introduce a new method, stemming from joint work with Shijie Gu, for doing just that, by declaring that a crumpled cube C is wilder than a crumpled cube D if there exists a continuous function f from C onto D carrying interior to interior and carrying boundary homeomorphically onto boundary.

We will describe properties carried from C to D when C is wilder than D, and will discuss crumpled cubes comparison properties preserved under certain basic topological operations.