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Variations of the Kuperberg plug with positive topological entropy

A theorem of Katok implies that any aperiodic flow on a compact 3-manifold has zero topological entropy. Aperiodic flows can be constructed using the celebrated construction of Krystyna Kuperberg’s plug. I will present a one-parameter family of plugs, containing the Kuperberg plug, plugs with simple dynamics (in the sense that the maximal invariant set is a cylinder) and plugs whose flow has positive topological entropy. This is joint work with Steve Hurder.