

Symbolic dynamics for three dimensional flows with positive topological entropy

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Abstract: Since Hadamard, the construction of symbolic models for dynamical systems has been successfully implemented in many scenarios. In a joint work with Sarig, we deal with flows with positive speed on three dimensional manifolds. These include geodesic flows on surfaces, and Reeb vector fields. Provided the flow has positive entropy, we code it by a suspension over a countable Markov shift.

Here is an application: for almost every metric on the two-sphere, there are $C, h > 0$ such that there are at least Ce^{Th}/T closed geodesics of size at most T .