Spectral Decomposition and Ω-Stability of Flows with Expanding Measures

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In this talk we present a measurable version of the classical spectral decomposition theorem for flows. More precisely, we prove that if a flow ϕ on a compact metric space X is invariantly measure expanding on its chain recurrent set $CR(\phi)$ and has the invariantly measure shadowing property on $CR(\phi)$ then ϕ has the spectral decomposition, i.e. the nonwandering set $\Omega(\phi)$ is decomposed by a disjoint union of finitely many invariant and closed subsets on which ϕ is topologically transitive. Moreover we show that if ϕ is invariantly measure expanding on $CR(\phi)$ then it is invariantly measure expanding on X. Using this, we characterize the measure expanding flows on a compact C^∞ manifold via the notion of Ω-stability. *This is joint work with N. Nguyen.*