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The Katok-Spatzier conjecture, generalized symmetries, and equilibrium-free flows. (English summary)


Summary: “The nature and the classification of equilibrium-free flows on compact manifolds without boundary that possess nontrivial generalized symmetries are investigated. Such flows are shown to be rare in the sense that the set of those flows not possessing a generalized symmetry is residual. An equilibrium-free flow on the 2-torus that possesses nontrivial generalized symmetries is classified as topologically conjugate to a minimal flow. A generalized symmetry is shown to be nontrivial when its Lyapunov exponent in the direction of the flow is nonzero. Conditions are given by which the multiplier of a nontrivial generalized symmetry is a real algebraic number of norm ±1. A set of conditions, which includes the Katok-Spatzier conjecture, is given by which an equilibrium-free flow on n-torus that possesses nontrivial generalized symmetries is shown to be projectively conjugate to an irrational flow of Koch type.”

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Note: This list reflects references listed in the original paper as accurately as possible with no attempt to correct errors.