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On the shadowableness of singular flows

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Abstract

The shadowing property is a landmark of the dynamical systems theory which is deeply related to stability phenomena. Hyperbolicity is a famous source of systems with the shadowing property. Nevertheless, the shadowing property does not hold for systems beyond the hyperbolic ones. Indeed, the Lorenz attractor is a paradigmatic example of non-hyperbolic flow which reassembles several properties of the hyperbolic ones, although it does not satisfy the shadowing property, as it was showed by M. Komuro. Several years later L. Wen and X. Wen extended Komuro's results and proved that a sectional hyperbolic set does not satisfy the shadowing property, unless it is hyperbolic. In this talk, we will push further this discussion and ask whether the non-shadowableness of singular flows is due to the sectional hyperbolicity or it is, in fact, a consequence of existence of attached singulaties. This is a joint work with A. Arbieto, A. Lopez and Y. Sanchez.

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