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Abstracts of Short Communications and Posters

Section:

6. Topology

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Kappos, Efthimios, University of Sheffield, United Kingdom
Sections of affine distributions
In many areas, such as pdes and control theory, an affine distribution $X + D, X \in \chi(M), D \subset TM$ is the natural datum, rather than D by itself. In this case, the classical integrability and foliation results are not relevant.
The appropriate approach is topological: we define local transverse to D manifolds N with dynamics that are invariant under the sections of D. Variations of these manifolds give rise to dynamics related through the notion of continuation of Conley. For general X, we define a singular set, where $X \in D$, and discuss how to simplify the D-transverse dynamics. Finally, we obtain global dynamics by using a construction of Lyapunov functions away from N.