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Meera Mainkar* (maink1m@cmich.edu) and **Jonas Dere**. *Anosov diffeomorphisms on infra-nilmanifolds associated to graphs*. Preliminary report.

Anosov diffeomorphisms play an important and beautiful role in dynamics as the notion give examples of structurally stable dynamical systems. The only known examples of Anosov diffeomorphisms are on infra-nilmanifolds which can be thought as a non-abelian generalization of tori. In this talk we will consider Anosov diffeomorphisms on a class of infra-nilmanifolds constructed from simply connected two-step nilpotent Lie groups associated with simple graphs. We give a full characterization of these type of infra-nilmanifolds admitting Anosov diffeomorphisms. We will also discuss some new examples. This work is still in progress and is joint with Jonas Deré. (Received September 19, 2017)