



DYNAMICAL SYSTEMS SEMINAR

On manifolds with a degree of relationship

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Abstract. In 1956, John Milnor exhibited the first examples of manifolds homeomorphic, but not diffeomorphic to 7-spheres, since then called exotic spheres. Interesting results on exotic manifolds were obtained through explicit geometric constructions. Here we present a new construction that relates exotic manifolds, such as exotic spheres, flag manifolds and connected sums of them, to their standard counterparts. Such relation is established through a Morita equivalence of action groupoids and is used to produce/reproduce metrics with positive Ricci and almost non-negative curvature. Joint work with L. Cavenaghi.

References

- [1] Leonardo F Cavenaghi and Llohann D Sperança. On the Geometry of Some Equivariantly Related Manifolds. *International Mathematics Research Notices*, 2018.
- [2] Leonardo F Cavenaghi and Llohann D Sperança. Positive Ricci curvature through Cheeger deformation. arXiv preprint arXiv:1810.09725, 2018.