



Universidad Politécnica de Madrid

Seminario del Grupo de Investigación Geometría y sus aplicaciones

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# Homogeneous braids and real algebraic links

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**Abstract:** Let  $f : \mathbb{R}^4 \rightarrow \mathbb{R}^2$  be a real polynomial map with an isolated singularity at the origin. Then the intersection of the zeros of  $f$  and a 3-sphere of sufficiently small radius is a smooth, closed 1-manifold embedded in  $S^3$ , i.e., a link. The links that arise in this way are called real algebraic. It is not known which links are real algebraic.

In this talk, I will discuss the family of homogeneous braids and their relationship to the above. In particular, closures of homogeneous braids are real algebraic links.

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