



Seminario de Álgebra, Geometría algebraica y Singularidades
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Join operation and some classes of finitely determined map-germs

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In Singularity Theory, the class of G -finitely determined (or G -finite) map-germs is focus of interest of many authors, where G is a group of diffeomorphisms. If a map-germ is G -finite, then it is G -equivalent to a polynomial map-germ.

In this work, we define an operation that consists in joining a finite number of map-germs to produce \mathcal{A} -finite map-germs, where \mathcal{A} is the group of right-left equivalence. More precisely, we prove that if f is a corank q monomial map-germ from $(\mathbb{C}^n, 0)$ to $(\mathbb{C}^p, 0)$ with $p \geq 2n$, then f is \mathcal{A} -finite if and only if f is \mathcal{A} -equivalent to the join of the identity in \mathbb{C}^{n-q} with q parameterized curves. As a corollary we obtain infinitely many families of \mathcal{A} -finite map-germs, not necessarily monomial. Some invariants such as the semigroup associated to a parameterized curve and the delta invariant were fundamental tools to obtain the previous results. This is a joint work with Maria Aparecida Soares Ruas.

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