

Non oscillating trajectories of o-minimal vector fields in dim 3

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In the context of a polynomially bounded o-minimal structure over the field of real numbers, we consider a system of two non autonomous differential equations. We show that two non oscillating solutions of such system that have flat contact and with a regular separation property (in the sense of Łojasiewicz) are either interlaced, or else have their coordinates belonging to a common Hardy field.

This dichotomy generalizes some of the results from F. Cano, R. Moussu and F. Sanz about non oscillating trajectories of real analytic vector fields in dimension 3 (dichotomy for integral pencil of trajectories), and from O. Le Gal, P. Speissegger and F. Sanz about solutions of o-minimal linear differential systems. After introducing the notions and context, if time permits we'll give a sketch of the proof.

This is a joint work with O. Le Gal and F. Sanz.