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A definable version of Haefliger's Theorem

A version of Haefliger's Theorem due to Moussu and Roche states that if M is an analytic, simply-connected manifold and d is an analytic and integrable distribution on M of codimension 1, then there is no closed, differentiable curve in M that is transverse to d . It follows that every leaf of d is a so-called Rolle leaf, which are the basic building blocks in pfaffian geometry. Haefliger's Theorem is false without the analyticity assumption, but a weaker form of his theorem remains true if "analytic" is replaced by "definable in an o-minimal structure". I will state (and give an idea of the proof of) this weaker theorem and discuss the relevance (or lack thereof) of both theorems to pfaffian geometry.

Joint work with Jean-Marie Lion.