ČECH COHOMOLOGY OF DEFINABLE SETS IN O-MIMIMAL STRUCTURES

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Topic #2 *Nonstandard Methods in Algebra, Algebraic Geometry and Topology.*

[Joint work with Alessandro Berarducci].

Let A be a semi-algebraic set, definable without using parameters in some real closed field M. Let $\tilde{A}$ be its real spectrum, and $A(\mathbb{R})$ be the realization of A on the reals. We will give a simple proof, based on the trasfer principle, of the fact that the Čech cohomology of $\tilde{A}$ is isomorphic to the one of $A(\mathbb{R})$ in a natural way. With a similar proof, we show an analogous result also for other o-minimal structures M.

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