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## Deciding boundedness of polynomials

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Session: 30. Real Algebraic Geometry, applications and related topics

Given a real semialgebraic set  $S \subset \mathbb{R}^n$  and a real polynomial f in n variables, we will discuss how to decide whether f is bounded on S. The key step will be an inductive process and a suitable cell decomposition of the set S independent of the polynomial f. This approach uses classic tools of real algebraic geometry.