

## Gal Binyamini: Arithmetically tame geometry

Over the past couple of decades there has been a growing link between o-minimality and number theory. Initiated by the work of Pila and Wilkie, this link was later used to make progress on several open problems including the Andre-Oort and Zilber-Pink conjectures.

Wilkie has conjectured that a much stronger form of the Pila-Wilkie theorem should hold in certain special o-minimal structures. I will talk about a new formalism, sharp o-minimality, which is meant to provide an axiomatization for these “arithmetically tame” structures. I'll explain how this was used in our recent work with Novikov and Zack to prove Wilkie's original conjecture, and how these ideas play into the recent resolution of the Andre-Oort conjecture for general Shimura varieties by Pila, Shankar and Tsimerman.