

# **Equidistribution of weakly special subvarieties, o-minimality and the geometric André-Oort conjecture**

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We will present a recent joint work with Rodolphe Richard where we combine techniques from ergodic theory on homogeneous spaces and some ideas from o-minimal theory. We deduce a new proof of the geometric part of the André-Oort conjecture for Shimura varieties from a general statement in homogeneous dynamics that holds for arbitrary arithmetic homogeneous space. The result is flexible enough to provide also a proof of the geometric part of the André-Oort conjecture in the context of  $Z$ -variations of Hodge structures (joint with Jiaming Chen and Rodolphe Richard).