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Compact domination for groups definable in linear
 \mathfrak{o} -minimal structures

Pantelis Eleftheriou
University of Notre Dame

We discuss Pillay's Conjecture (PC) and Compact Domination Conjecture (CDC) for groups definable in linear \mathfrak{o} -minimal structures. Let G be a definably compact group definable in a saturated \mathfrak{o} -minimal structure \mathcal{M} . Roughly stated, PC says that G must contain a normal type-definable subgroup G^{00} of 'infinitesimals', such that G/G^{00} is a real compact Lie group of the same dimension as G . CDC says that, in this case, the canonical homomorphism $\pi : G \rightarrow G/G^{00}$ is a kind of intrinsic 'standard part map'.

If \mathcal{M} expands a real closed field, then PC is true (Hrushovski-Peterzil-Pillay) and CDC remains open.

If \mathcal{M} is an ordered vector space over an ordered division ring, we first prove that G is a 'definable torus', and then answer positively both PC and CDC.