Stability in hyperimaginary sorts

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Abstract

In this talk, I will discuss results related to stability theory for hyperimaginary sorts, with applications to NIP theories. I will define what it means for a hyperimaginary sort to be stable, give examples, and develop some of the mechanics of stability theory in that context. As an application, for an NIP group G, I will describe a universal stable quotient G/G^{st} that serves as a "stable invariant" of the group similar to the compact group G/G^{00}. In the distal case $G/G^{\mathrm{st}} = G/G^{00}$, but that need not hold in general. Some of this material is from the paper *On maximal stable quotients of definable groups in NIP theories* by Haskel and Pillay, to appear in the Journal of Symbolic Logic.