▶ ALEKSANDER IWANOW, *Pseudocompact unitary representations of finitely generated groups.*

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We consider unitary representations of finitely generated groups as continuous metric structures ([1]) which are obtained from Hilbert spaces over $\mathbb{C}$ by adding some unitary operators. It is not known if any unitary representation is elementarily equivalent to an ultraproduct of finite dimensional unitary representations (i.e. if its unit ball is pseudocompact). We connect this problem with the topic of approximations by metric groups (in particular with property MF). We also consider appropriate algorithmic problems concerning continuous theories of natural classes of these structures.

[1] I. BEN YAACOV, A. BERENSTEIN, W. HENSON and A. USVYATSOV, *Model theory for metric structures*, **Model theory with Applications to Algebra and Analysis, v.2** (Z. Chatzidakis, H.D. Macpherson, A.Pillay and A.Wilkie, editors), London Math. Soc. Lecture Notes, v.**350**, Cambridge University Press, 2008, pp. 315–427.