Generalized Haar meager sets and related cardinal invariants

Abstract

In this talk we introduce the σ-ideal of generalized Haar meager sets $\mathcal{GHM}(G)$ on a Polish group G. If the group G is locally compact then $\mathcal{GHM}(G)$ coincides with collection of meager subsets of G. However, if G is not locally compact, then the situation changes. For a large class of Polish non-locally compact groups (that includes for example separable Banach spaces) we calculate $\mathrm{non}(\mathcal{GHM}(G))$ and $\mathrm{cov}(\mathcal{GHM}(G))$. We also show that under CH for many groups G we have that $\mathrm{cof}(\mathcal{GHM}(G)) > \boldsymbol{c}$.