Finite Rank and S-adic systems dynamics

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In this talk we present topological finite rank minimal Cantor systems and its symbolic version, the S-adic subshifts. First we prove that both classes coincide (up to topological conjugacy) when considering minimal and recognizable S-adic subshifts. Then we provide necessary and sufficient conditions for a minimal subshift to be of topological finite rank. In the case a minimal subshift has non-superlinear complexity we prove it has topological finite rank. Concerning dynamical properties of topological finite rank systems, when the rank is two we prove that the number of asymptotic classes is bounded and thus the automorphism group is virtually $\mathbb{Z}$. Interestingly, we construct examples of topological rank two systems where the complexity is superlinear.

This is a joint work with Fabien Durand, Samuel Petit and sebastián Donoso.