

Hausdorff dimension in pro- p groups

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Every finitely generated pro- p group G comes equipped with a range of translation-invariant metrics, each one naturally induced by a filtration series such as the p -power filtration or the (modular) dimension subgroup filtration. Given such a metric, the distribution of closed subgroup in G gives rise to a corresponding Hausdorff spectrum. It is a long-standing open question whether the finiteness of the Hausdorff spectrum, with respect to the p -power filtration, say, implies that the pro- p group G is p -adic analytic. After a general introduction, I will mainly report on joint work with Alejandra Garrido and Oihana Garaialde-Ocana concerning the Hausdorff spectra of free pro- p groups.

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