ABSTRACT:

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Rationality and volume growth in the polynomial range

Finitely generated groups and the model spaces that they act on geometrically have growth functions related by quasi-isometry, which ensures the same coarse rate of growth in the group and the space. For groups, it has been a question of long-standing interest to study not only the growth rate but its rationality, a finer (arithmetic) property; in some instances, volume growth in the model space can be used as a tool, even though rationality is destroyed by QI.