

Assouad-Nagata dimension of wreath products of groups

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Abstract. Consider the wreath product $H \wr G$, where $H \neq 1$ is finite and G is finitely generated. We show that the Assouad-Nagata dimension $\dim_{AN}(H \wr G)$ of $H \wr G$ depends on the growth of G as follows:

If the growth of G is not bounded by a linear function, then $\dim_{AN}(H \wr G) = \infty$, otherwise $\dim_{AN}(H \wr G) = \dim_{AN}(G) \leq 1$.