

Analytic varieties with finite volume amoebas are algebraic

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The poster deals with amoebas of k -dimensional analytic varieties in the complex algebraic torus of dimension $n \geq 2k$. We show that the volume of the amoeba of a generic k -dimensional analytic variety in $(\mathbb{C}^*)^n$, with $n \geq 2k$ is finite if and only if the variety is algebraic. Moreover, we prove that the volume of the amoeba of a generic real k -plane in $(\mathbb{C}^*)^{2k}$ is equal to $(\frac{\pi^2}{2})^k$. This is a joint work with Farid Madani.