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Growth of k -dimensional systoles in congruence coverings

jeudi 15 mai 2025 16:00 (1 heure)

We study growth of absolute and homological k -dimensional systoles of arithmetic n -manifolds along congruence coverings. Our main interest is in the growth of systoles of manifolds whose real rank $r > 1$. We observe, in particular, that in some cases for $k = r$ the growth function tends to oscillate between a power of a logarithm and a power function of the degree of the covering which is a new phenomenon. We also prove the expected polylogarithmic and constant power bounds for small and large k , respectively. In the talk I will discuss the general picture and proofs of some results. It is based on joint work with S. Weinberger and work in progress with A. Erdnigor and S. Weinberger.

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