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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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