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Dubi Kelmer* (dubi.kelmer@bc.edu), Department of Mathematics, 301 Carney Hall, Boston College, Chestnut Hill, MA 02467. *On the spectrum and length spectrum of hyperbolic manifolds.*

There is a very close relation between the Laplace spectrum and the lengths of closed geodesics on negatively curved manifolds. For hyperbolic surfaces the Laplace spectrum and the length spectrum determine each other. However, in higher dimensions the connection is more mysterious. In this talk I will describe new results showing that the Laplace spectrum of a compact hyperbolic manifold is determined by its length spectrum, and discuss how much of the length spectrum is actually needed in order to recover the Laplace spectrum. (Received August 26, 2011)