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Akshay Venkatesh*, New York University-Courant Institute. *L-functions: Identities and estimates.*

Y. Motohashi discovered a remarkable identity relating the fourth power of the Riemann zeta function to (among other things) eigenvalues of the Laplacian operator on a certain hyperbolic surface. Other interesting identities of a related nature were found by Kuznetsov. I will discuss these identities and their role in analytic number theory. This talk will report on my joint work with Philippe Michel, as well as on the work of Andrei Reznikov. (Received May 27, 2008)