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Ian Petrow* (ian.petrow@epfl.ch), Section des Mathématiques, Bâtiment MA, Station 8, 1004 Lausanne, Switzerland. *Cubic Moments of L -functions and the Petersson formula for newforms.*

Subconvex bounds for central values of L -functions are well-known to have many important arithmetic applications. In this talk I will present joint work with M.P. Young in which we use a cubic moment to prove a Weyl-type subconvexity bound for the central L -values of quadratic twists of a newform of square-free level, trivial nebentypus, and arbitrary even weight. This generalizes work of Conrey and Iwaniec. I will discuss a new more general Petersson formula for newforms of square-free level, which we developed as a tool for these estimates. (Received September 12, 2016)