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Jesse Thorner* (jthorner@stanford.edu). *Weak subconvexity without a Ramanujan hypothesis.*

(Joint work with K. Soundararajan.) In 2008, Soundararajan obtained a weak sub-convexity bound for central values of a large class of L -functions, assuming a weak Ramanujan hypothesis on the size of Dirichlet series coefficients of the L -function. If C denotes the analytic conductor of the L -function in question, then $C^{1/4}$ is the size of the convexity bound, and the weak subconvexity bound established there was of the form $C^{1/4}/(\log C)^{1-\epsilon}$. I will describe a weak subconvexity bound of the shape $C^{1/4}/(\log C)^\delta$ for some small $\delta > 0$, but with a much milder hypothesis on the size of the Dirichlet series coefficients. In particular our results will apply to all automorphic L -functions, and (with mild restrictions) to the Rankin-Selberg L -functions attached to two automorphic representations. (Received October 17, 2018)