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Wei Zhang* (weizhang@mit.edu), 77 Massachusetts Avenue, Cambridge, MA 02139. *Algebraic cycles and L-functions: a relative trace formula approach.*

We review conjectures and theorems on special cycles on Shimura varieties, and their connection to central values of L-functions and their derivatives. We focus on the global Gan–Gross–Prasad conjectures, their arithmetic versions and some variants in the author’s joint work with Rapoport and Smithling. (Received September 05, 2018)