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**Fan Zhou\*** (zhou.1406@math.osu.edu), 231 West 18th Ave, Columbus, OH 43210. *Double Dirichlet Series and Voronoi Formula.*

We present a proof of Voronoi formula for coefficients of a large class of  $L$ -functions, in the style of the classical converse theorem of Weil. Our formula applies to Maass cusp forms, Rankin-Selberg convolutions, and certain isobaric sums. Our proof is based on the functional equations of  $L$ -functions twisted by Dirichlet characters and does not directly depend on automorphy and hence has wider application than previous proofs. The key ingredient is the construction of a double Dirichlet series associated with these coefficients. This is joint work with Eren Mehmet Kırıl. (Received August 03, 2015)