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Alexandru Popa* (apopa@math.upenn.edu), UPenn Mathematics Dept, DRL, 209 S 33rd St, Philadelphia, PA 19104. *Arithmetic functions attached to real quadratic fields and central values of L-functions*. Preliminary report.

I discuss certain arithmetic functions introduced by Kohnen and Zagier in connection with the geodesic periods of a modular newform f of weight $2k$ and full level. These functions depend only on k and a quadratic discriminant. When k is even, they can be used to check numerically the nonvanishing of the central value of the L-function of f . This talk represents work in progress. (Received January 22, 2008)