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Siegfried Baluyot*, 600 East Brokaw Road, San Jose, CA 95112, and **Kyle Pratt**, All Souls College, Oxford, OX1 4AL, United Kingdom. *Dirichlet L -functions of quadratic characters of prime conductor at the central point.*

The question of non-vanishing of L -functions at the central point is related to many deep arithmetical problems. A conjecture of Chowla states that $L(\frac{1}{2}, \chi)$ is non-zero for all Dirichlet L -functions $L(s, \chi)$ of real primitive characters. In this talk, we consider the family of Dirichlet L -functions $L(s, \chi_p)$, where p varies over the primes congruent to 1 mod 8 and χ_p is the real primitive Dirichlet character of conductor p . We prove that more than nine percent of their central values are non-zero. Previously, it was not known whether a positive proportion of these central values are non-zero. (Received February 16, 2021)