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Alireza Salehi Golsefidy and **Peter P. Varju*** (pvarju@princeton.edu). *Property (τ) for thin groups.*

Let $\Gamma < SL_d(\mathbf{Z})$ be a finitely generated subgroup. We show that it has property (τ) with respect to the congruence subgroups $\Gamma_q = \{g \in \Gamma : g \equiv 1 \pmod{q}\}$ for q square-free, if and only if the connected component of the Zariski closure of Γ is perfect. The result has applications to sieving in orbits in number theory. (Received February 13, 2011)