

# On Linnik type problems

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In the 1960's Linnik considered the problem of how integer points on a sphere, i.e. integer solutions to  $x^2 + y^2 + z^2 = m$  with  $m$  fixed are distributed. Using an ingenious argument of an ergodic theoretic flavor he showed that these are equidistributed under a certain congruence condition on  $m$ . Much later Duke gave a striking proof of the full equidistribution question using the theory automorphism form.

I will discuss Linnik's method as well as recent results joint with Einsiedler, Michel and Venkatesh.