

Welcome Home Workshop 2014

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LINGUA PER LA CONFERENZA: italiano

TITOLO: The distribution of lattice points and the Gauss Circle Problem

COAUTORI: -

Abstract

We will discuss the function $r_2(n)$, which counts the number of ways to represent a positive integer n as a sum of two squares, and the link to the number of lattice points on a circle.

I will then present the Gauss Circle Problem and the classical bound for the error term. In particular, the classical bound yields the average of $r_2(n)$.

If time permits, we will have a look at the methods involved in improving the classical bound for the error term in the Gauss Circle Problem, and briefly discuss results about the angular distribution of lattice points on circles.