

On integral quadratic forms which satisfy the Hasse-Minkowski principle of integral representations of integers

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Abstract

An integral quadratic form $f(x_1, \dots, x_n)$ is called regular if for every integer a , the equation $f(x_1, \dots, x_n) = a$ is soluble over \mathbb{Z} if and only if it is soluble over \mathbb{R} and over all p -adic integers. In this talk, I will give a brief history of the problem of determining positive definite regular quadratic forms, and survey some recent results on positive definite quadratic forms which satisfy various kinds of regularity conditions.