

Universal Quadratic Forms

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In this talk, a brief history and recent developments on universal forms are introduced. (For a given set S of quadratic forms, an S -universal form is a quadratic form that represents all the forms in S .) Recent developments include Conway-Schneeberger's Fifteen Theorem on $\mathbf{Z}^+$ -universal forms, Bhargava's Finiteness Theorem on representability of some infinite subsets of $\mathbf{Z}^+$, and their generalizations. Some applications and related topics are also discussed.

Presented by Myung-Hwan Kim