

Maximal Sets of Unit-distant Points

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Abstract. For an arbitrary field \mathbb{F} the maximal number $\omega_1(\mathbb{F}^n)$ of points in \mathbb{F}^n mutually distance 1 apart with respect to the standard inner product is investigated. If the characteristic $\chi(\mathbb{F})$ is different from 2, then the values of $\omega_1(\mathbb{F}^n)$ lie between $n - 1$ and $n + 2$. A complete evaluation of $\omega_1(\mathbb{Q}^n)$ is given.

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