Gerstein, Larry J.
Nearly unimodular quadratic forms. (English) Zbl 0842.11012
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A $\mathbb{Z}$-lattice L is called nearly unimodular if it has a Gram matrix of the form

$$\begin{pmatrix} a_1 & 1 & & & \\ 1 & a_2 & \ddots & & \\ & \ddots & \ddots & & \\ & & & a_{n-1} & 1 \\ & & & 1 & a_n \end{pmatrix} =: [a_1, \dots, a_n] =: A$$

(then we denote $L \cong A$). The main result is the following classification theorem: Let $A = [a_1, \dots, a_n]$ and $B = [b_1, \dots, b_n]$. Suppose L and M are positive definite nearly unimodular $\mathbb{Z}$-lattices with $L \cong A$ and $M \cong B$. Then L is isometric to M if and only if $B = A$ or $B = [a_n, \dots, a_1]$.

Reviewer: M.Peters (Münster)

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