

1.61: Lattice

A **lattice** in the vector space \mathbf{V}^n is the set of all integral linear combinations $\mathbf{t} = u_1\mathbf{a}_1 + u_2\mathbf{a}_2 + \dots + u_k\mathbf{a}_k$ of a system $(\mathbf{a}_1, \mathbf{a}_2, \dots, \mathbf{a}_k)$ of linearly independent vectors in \mathbf{V}^n .

If $k = n$, i.e. if the linearly independent system is a **basis** of \mathbf{V}^n , the lattice is often called a **full lattice**. In crystallography, lattices are almost always full lattices, therefore the attribute "full" is usually suppressed.

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