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Sommario/riassunto	The dense packing of microscopic spheres (i.e. atoms) is the basic geometric arrangement in crystals of mono-atomic elements with weak covalent bonds, which achieves the optimal ""known density"" of p/v18. In 1611, Johannes Kepler had already ""conjectured"" that p/v18 should be the optimal ""density"" of sphere packings. Thus, the central problems in the study of sphere packings are the proof of Kepler's conjecture that p/v18 is the optimal density, and the establishing of the least action principle that the hexagonal dense packings in crystals

are the geometric consequence of optimization of