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Nota di contenuto	Introduction -- Four Hamiltonian Systems -- Small Vibrations of Tetrahedral Molecules -- The Hydrogen Atom in Crossed Fields -- Quadratic Spherical Pendula -- Fractional Monodromy in the 1: - 2 Resonance System -- The Tetrahedral Group -- Local Properties of Equilibria -- References -- Index.
Sommario/riassunto	Modern notions and important tools of classical mechanics are used in the study of concrete examples that model physically significant molecular and atomic systems. The parametric nature of these examples leads naturally to the study of the major qualitative changes of such systems (metamorphoses) as the parameters are varied. The

symmetries of these systems, discrete or continuous, exact or approximate, are used to simplify the problem through a number of mathematical tools and techniques like normalization and reduction. The book moves gradually from finding relative equilibria using symmetry, to the Hamiltonian Hopf bifurcation and its relation to monodromy and, finally, to generalizations of monodromy.