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Autore	Bolsinov Alexey
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Nota di contenuto	Integrable Systems and Differential Galois Theory -- Singularities of bi-Hamiltonian Systems and Stability Analysis -- Geometry of Integrable non-Hamiltonian Systems.
Sommario/riassunto	Based on lectures given at an advanced course on integrable systems at the Centre de Recerca Matemàtica in Barcelona, these lecture notes address three major aspects of integrable systems: obstructions to integrability from differential Galois theory; the description of singularities of integrable systems on the basis of their relation to bi-Hamiltonian systems; and the generalization of integrable systems to the non-Hamiltonian settings. All three sections were written by top experts in their respective fields. Native to actual problem-solving challenges in mechanics, the topic of integrable systems is currently at the crossroads of several disciplines in pure and applied mathematics, and also has important interactions with physics. The study of integrable systems also actively employs methods from differential

geometry. Moreover, it is extremely important in symplectic geometry and Hamiltonian dynamics, and has strong correlations with mathematical physics, Lie theory and algebraic geometry (including mirror symmetry). As such, the book will appeal to experts with a wide range of backgrounds.

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