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Descrizione fisica	1 online resource (400 pages)
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Mathematical Background -- What Exactly is Spin? -- Bestiary of Spin Hamiltonians -- Coherent Spin Dynamics -- Other Degrees of Freedom -- Dissipative Spin Dynamics -- Incomplete Basis Sets -- Optimal Control of Spin Systems -- Notes on Software Engineering.
Sommario/riassunto	This monograph is a fundamental reference for scientists and engineers who encounter spin processes in their work. The author, Ilya Kuprov, derives the concept of spin from basic symmetries and gives an overview of theoretical and computational aspects of spin dynamics: from Dirac equation and spin Hamiltonian, through coherent evolution and relaxation theories, to quantum optimal control, and all the way to practical implementation advice for parallel computers.