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Nota di contenuto	Front Cover; Contents; Foreword; Preface; - I - Game Physics 101; - 1 - Mathematical Background; - 2 - Understanding Game Physics Artifacts; - II -Collision Detection; - 3 - Broad Phase and Constraint Optimization for PlayStation 3; - 4 - SAT in Narrow Phase and Contact-Manifold Generation; - 5 - Smooth Mesh Contacts with GJK; - III - Particles; - 6 - Optimized SPH; - 7 - Parallelizing Particle-Based Simulation on Multiple Processors; - IV - Constraint Solving; - 8 - Ropes as Constraints; - 9 - Quaternion-Based Constraints; - V - Soft Body; - 10 - Soft Bodies Using Finite Elements - 11 - Particle-Based Simulation Using Verlet Integration- 12 - Keep Yer Shirt On; - VI - Skinning; - 13 - Layered Skin Simulation; - 14 - Dynamic Secondary Skin Deformations; Glossary of Notation; Contributors
Sommario/riassunto	Implementing physical simulations for real-time games is a complex task that requires a solid understanding of a wide range of concepts from the fields of mathematics, physics, and software engineering. This book is a gems-like collection of practical articles in the area of game physics. Each provides hands-on detail that can be used in practical applications. The chapters cover topics such as collision detection,

particle-based simulations, constraint solving, and soft-body simulation. An introductory section provides the mathematical foundations and offers some background for the problems i