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Nota di contenuto	Chapter 1: Laser Welding Basics -- Chapter 2: Model of Quasi-Steady Weld Pool Dynamics and Numerical Simulation -- Chapter 3: Model of Quasi-Steady Weld Pool Dynamics and Numerical Simulation -- Chapter 4: Simulation of Transient Keyhole and Weld Pool -- Chapter 5: Dynamic Behaviors of Metal Vapor / Plasma Plume inside Transient Keyhole -- Chapter 6: Behaviors of Keyhole and Weld Pool under the Effect of Side-Blown Gas -- Chapter 7: Keyhole and Weld Pool Dynamics in Dual-Beam Laser Welding -- Chapter 8: Keyhole and Weld Pool Dynamics in Laser Welding with Filler Wires -- Chapter 9: Dynamical Behaviors of Keyhole and Weld Pool in Vacuum Laser Welding .

Sommario/riassunto

This book systematically describes the weld pool behavior in laser welding and its influencing factors from the perspectives of testing technology, theoretical calculation and process simulation technology, physical state transformation behavior of weld pools, and the impact of technical conditions on the weld pool behavior. The book covers extensive research achievements made in China in this field, some of which represent the latest cutting-edging researches conducted by the authors' research team. These latest research efforts mainly relate to the weld pool behavior of dual-beam laser welding, laser welding with filler wires, full-penetration laser welding of very-thick parts, and laser welding in vacuum and low vacuum conditions. The book is intended for undergraduate, graduate students and researchers who are interested in laser welding.