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Sommario/riassunto	This two-volume work presents state-of-the-art mathematical theories and results on infinite-dimensional dynamical systems. Inertial manifolds, approximate inertial manifolds, discrete attractors and the dynamics of small dissipation are discussed in detail. The unique combination of mathematical rigor and physical background makes this work an essential reference for researchers and graduate students in applied mathematics and physics. The main emphasis in the fi rst volume is on the existence and properties for attractors and inertial manifolds. This volume highlights the use of modern analytical tools and methods such as the geometric measure method, center manifold theory in infinite dimensions, the Melnihov method, spectral analysis and so on for infinite-dimensional dynamical systems. The second volume includes the properties of global attractors, the calculation of discrete attractors, structures of small dissipative dynamical systems, and the existence and stability of solitary waves. ContentsDiscrete attractor and approximate calculation Some properties of global

attractor Structures of small dissipative dynamical systems Existence and stability of solitary waves