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Nota di contenuto	; Part 1. Review papers. ; Chapter 1. Modeling runup with depth integrated equation models / G. Pedersen. -- ; Chapter 2. High-resolution finite volume methods for the shallow water equations with bathymetry and dry states / R. J. LeVeque and D. L. George. -- ; Chapter 3. SPH modeling of tsunami waves / B. D. Rogers and R. A. Dalrymple. -- ; Chapter 4. A Large eddy simulation model for tsunami and runup generated by landslides / T.-R. Wu and P. L.-F. Liu. -- ; Chapter 5. Free-surface lattice Boltzmann modeling in single phase flows / J. B. Frandsen -- ; Part 2. Extended abstracts. -- ; Chapter 6. Benchmark problems / P. L.-F. Liu, H. Yeh and C. E. Synolakis. -- ; Chapter 7. Tsunami runup onto a plane beach / Z. Kowalik, J. Horrillo and E. Kornkven. -- ; Chapter 8. Nonlinear evolution of long waves over a sloping beach / U. Kanoglu. -- ; Chapter 9. Amplitude evolution and runup of long waves; comparison of experimental and numerical data on a 3D complex topography / A. C. Yalciner, F. Imamura and C. E. Synolakis. -- ; Chapter 10. Numerical simulations of tsunami runup onto a three-dimensional beach with shallow water equations / X. Wang, P. L.-F. Liu and A. Orfila. -- ; Chapter 11. 3D Numerical simulation of tsunami runup onto a complex bench / T. Kakinuma. -- ;

Chapter 12. Evaluating wave propagation and inundation characteristics of the most tsunami model over a complex 3D beach / A. Chawla, J. Borrero and V. Titov. -- ; Chapter 13. Tsunami generation and runup due to a 2D landslide / Z. Kowalik, J. Horrillo and E. Kornkven. -- ; Chapter 14. Boussines Q modeling of landslide-generated waves and tsunami runup / O. Nwogu. -- ; Chapter 15. Numerical simulation of tsunami runup onto a complex beach with a boundary-fitting cell system / H. Yasuda. -- ; Chapter 16. A 1-D lattice Boltzmann model applied to tsunami runup onto plane bench / J. B. Frandsen. -- ; Chapter 17. A Lagrangian model applied to runup problems / G. Pedersen. -- Appendix. Phase-averaged towed PIV measurements for regular head waves in a model ship towing tank / J. Longo ... [et al.].

Sommario/riassunto

This review volume is divided into two parts. The first part includes five review papers on various numerical models. Pedersen provides a brief but thorough review of the theoretical background for depth-integrated wave equations, which are employed to simulate tsunami runup. LeVeque and George describe high-resolution finite volume methods for solving the nonlinear shallow water equations. The focus of their discussion is on the applications of these methods to tsunami runup.In recent years, several advanced 3D numerical models have been introduced to the field of coastal engineering to calcu