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Sommario/riassunto   This book is a collection of the papers from the proceedings of the 1st Asian Workshop on Meshfree Methods held in conjunction with the 2nd International Conference on Structural Stability & Dynamics (ICSSD02) on 16-18 December 2002 in Singapore. It contains 36 articles covering most of the topics in the rapidly developing areas of meshfree methods and extended finite element methods (X-FEM). These topics include domain discretization, boundary discretization, combined domain/boundary discretization, meshfree particle methods, collocation methods, X-FEM, etc. Papers on issues related to implementation and coding of meshfree methods are also presented.

The areas of applications of meshfree methods include solving general partial differential equations, the mechanics of solids and structures, smart material/structures, soil-structures, fracture mechanics, fluid dynamics, impact, penetration, micro-fluidics, etc. In addition, techniques for field variable interpolation, such as the moving least squares (MLS) approximation, the point interpolation method (PIM), and radial PIM are reported.