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4.2.4. Interfaces with discontinuous first-order derivatives4.3. Displacement incompatible element from the potential principle; 4.3.1. 2D 4-node incompatible element; 4.3.2. 3D 8-node incompatible element; 4.4. Hybrid stress elements from the Hellinger-Reissner principle; 4.4.1. Plane 4-node Pian and Sumihara (PS) 5 element; 4.4.2. 3D 8-node 18 hybrid stress element; 4.5. Enhanced-strain element based on the Hu-Washizu principle; 4.5.1. Plane 4-node enhanced-strain element; 4.5.2. 3D 8-node enhanced-strain element; 4.6. Comments on the various methods
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Sommario/riassunto

This unique volume presents the state of the art in the field of multiscale modeling in solid mechanics, with particular emphasis on computational approaches. For the first time, contributions from both leading experts in the field and younger promising researchers are combined to give a comprehensive description of the recently proposed techniques and the engineering problems tackled using these techniques. The book begins with a detailed introduction to the theories on which different multiscale approaches are based, with regards to linear Homogenisation as well as various nonlinear approa.