

Università degli Studi di Pavia

Dipartimento di Meccanica Strutturale

In collaborazione con

Centro di Simulazione Numerica Avanzata – CeSNA

Istituto Universitario di Studi Superiori

A SMOOTHED PARTICLE HYDRODYNAMICS: BASICS AND APPLICATIONS

Starting from meshfree methods, the Smoothed Particle Hydrodynamics (SPH) is introduced as a complementary tool for numerical simulation of peculiar hydrodynamic problems: its potential advantages with respect to traditional grid-based techniques are pointed out. The governing fluid dynamic equations are recalled and their numerical discretization in the SPH approximation is illustrated. Further numerical aspects relevant to SPH are also discussed, such as solid boundaries treatment. Finally some applications of the SPH method for simulating engineering hydraulic problems are shown, involving rapidly varied free surface flows with large displacements and impacts, scouring phenomena and interaction with rigid bodies.

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*Giovedì 12 Novembre, Aula MS1
Seminar tentative schedule: 9.00 – 10.30
Dipartimento di Meccanica Strutturale
Via Ferrata,1 – Pavia*