

Università degli Studi di Pavia

Dipartimento di Meccanica Strutturale

In collaborazione con

Centro di Simulazione Numerica Avanzata – CeSNA

Istituto Universitario di Studi Superiori

Wave phenomena in fluid-structure interaction

In this presentation a number of phenomena inherent to the interaction between structures and surrounding fluids when the loading has a non-stationary nature and is short in duration are considered. Of particular interest here are the reflection and focusing of pressure waves propagating in the system 'fluid(s)-structure(s)', and the emphasis of the presentation is on examining the effects of such phenomena in fluid volumes contained by thin-walled structures. The theoretical background is presented, followed by a detailed discussion of many practical issues arising when internal fluid volumes are present. In particular, it is demonstrated that under certain circumstances reflection and focusing can result in very high internal pressure, at times even exceeding the incident pressure itself. The practical significance of this and other observations is discussed in the context of biomechanical applications.

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Dalhousie University - Halifax, Canada

Venerdì 18 Settembre – ore 15.00, Aula MS1

Dipartimento di Meccanica Strutturale

Via Ferrata, 1 – Pavia

Professor S. Iakovlev will be visiting the Dipartimento of Meccanica Strutturale until July 2010

Si noti che il seminario avrà carattere informale e durerà circa 2 ore