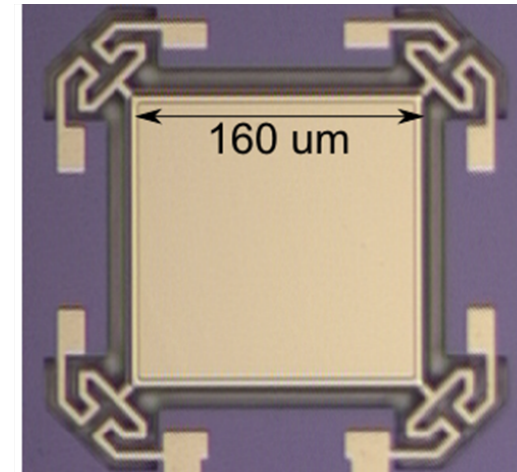


in collaboration with
Centro di Simulazione Numerica Avanzata – CeSNA
Istituto Universitario di Studi Superiori

On the analysis of solid and fluid dissipation in MEMS resonators

High frequency and high Q oscillators (like the square extensional MEMS in the Figure) will be the driving mechanism of a new generation of devices such as RF filters and timing modules (see for instance the FP7 project Go4Time <http://www.go4time.eu/>).

We will discuss numerical strategies for the evaluation of dissipation in such systems. The level of damping is of paramount importance since, for instance, it may strongly affect the resolution in microscopic force sensors and the amplitude pattern close to resonance for frequency sensors. While “fluid damping” is important at high and moderately low pressures, in near vacuum dissipation is associated to mechanisms in the solid material like attachment losses and thermoelastic coupling.



SEMINAR

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Monday 26 September, 16.00
MS1 Conference Room,
Department of Structural Mechanics,
Via Ferrata,1 – Pavia