

Session ID: SHM-6

Title

COMBINED SHM OF EXISTING STRUCTURES AND INFRASTRUCTURES USING ON-SITE AND SATELLITE ACQUISITIONS

Convenors

F.C. Ponzo ¹, P. Gueguen ², M. Savoia ³

Description

In the last decade, structures and transport infrastructures have experienced significant safety criticalities, which in some cases led to collapse with significant social and economic impacts. Structural health monitoring plays a crucial role in providing an effective assessment of the safety conditions and in timely planning of the ordinary and extraordinary maintenance program. Most of developed methods for rapid damage detection on structures and infrastructures are generally based on the evaluation of structural characteristics and/or deformation and their variation over time. In recent years, thanks to an ever-increasing number of satellite constellations, to the rapid evolution of satellite sensors and interferometric processing techniques, various structural monitoring applications are being developed, capable of providing information on structural deformations both at a local and territorial scale.

This technical session aims to contribute to the discussion on the advantages and limitations of satellite measurements for structural applications and on the definition of suitable strategies to detect damages on existing structures and infrastructures in operational conditions also by combining the information obtained both from on-site measurements and from remote sensing.

Much work has been done in this direction in Italy by the ReLUIS university consortium, with support of the Civil Protection Department, which led some of the convenors to propose this technical session.

Invited Speakers

P.G. Asteris ⁴, X. Ding ⁵, A.A. Correia ⁶, A. Prota ⁷, A. Saetta ⁸, A. Meda ⁹, M.R. Gallipoli ¹⁰, R. Ditommaso ¹, R. Lanari ¹¹, S. Parolai ¹²

Affiliations

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