筑波大学
University of Tsukuba

EME International Seminar Series

Experimental micromechanics on 2D granular materials with $1\gamma 2\varepsilon$ device

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Abstract:

1γ2ε is an experimental device for plane stress shear testing in which a two-dimensional granular medium analogue model is installed: Schneebeli rollers. This device allows all conceivable loading paths to be imposed, in terms of deformation or stress or a combination of both. At the sample scale, stress and strain tensors are obtained by force and displacement sensors located on/in the frame containing the sample. At the particle scale, particle kinematics are obtained by digital image correlation.

In this presentation, we propose to give an overview of some of the studies carried out and results obtained at the 3SR laboratory in Grenoble over the last 25 years using this device, results that will be included in the evolution of techniques used for kinematic field measurements. Some digressions into the field of discrete element modelling will be possible.

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