23rd ALERT 2012 Workshop

Session 1 (Monday, October 1st)

Micromechanics and critical steady states in geomaterials

Coordinators: Yannis Dafalias (UC Davis), Bruno Chareyre (3SR Grenoble INP)

Morning Session

Real Experiments

The Effect of Fibre Reinforcement on the Mechanical Behaviour of Granular Materials
Olufemi Ajayi¹, Jeff Priest¹, Louis Le Pen¹, Antonis Zervos¹
¹: University of Southampton, UK

Experimental Micro-Mechanics: Following sand deformation in 3D
Edward Andò¹, Cino Viggiani¹, Stephen Hall¹, Jacques Desrues¹, Pierre Besuelle¹
¹: 3SR, Grenoble, France

An experimental assessment of displacement fluctuations in a 2D granular material subjected to shear
Vincent Richefeu¹, Gaël Combe¹, Gioacchino Viggiani¹
¹: 3SR, Grenoble, France

Heterogeneity and soil element testing
David Muir Wood¹
¹: University of Dundee, United Kingdom

Coffe Break

Numerical experiments

Invited Presentation
Stress and microstructure in general 3D deviatoric straining of granular media
Colin Thornton¹
¹: University of Birmingham, UK.

Asymptotic behaviour of granular materials investigated using discrete element model
David Mašín¹
¹: Charles University in Prague, Czech Rep.

Fabric evolution and geometrical interpretation of the critical state
Farhang Radjai¹, Stéphane Roux²
¹: Université Montpellier 2, France; ²: LMT-Cachan, France

Critical states and stress-dilatancy relations in model granular materials: DEM studies
Emilien Azéma¹, Jean-Noël Roux², Farhang Radjai²
¹: LMGC, université Montpellier II, France; ²: Laboratoire Navier, Champs-sur-Marne, France
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Afternoon session

Constitutive modeling

Invited Presentation
Some basic questions about critical state in granular materials
Bernard Cambou\textsuperscript{1}, E. Vincens\textsuperscript{1}, H. Magoariec\textsuperscript{1}
1: LTDS, Ecole Centrale Lyon, France

Coupling breakage and capillary effects in constitutive models for granular soils
Giuseppe Buscarrier\textsuperscript{1}, Itai Einav\textsuperscript{2}
1: Northwestern University, 2: The University of Sydney, Australia

From solid to granular gases: the steady state for sands
Vescovi Dalila\textsuperscript{1}, di Prisco Claudio\textsuperscript{1}, Berzi Diego\textsuperscript{1}
1: Politecnico di Milano, Italy

The effect of granular temperature on the stress measured at the steady state
Eleni Gerolymatou\textsuperscript{1}, Theodoros Triantafyllidis\textsuperscript{1}, Claudio di Prisco\textsuperscript{2}
1: Karlsruhe Institute for Technology, Germany; 2: Politecnico di Milano, Italy

Coffee Break

Boundary value problems

Continuum modelling of interfacial localisation in the cylinder shear test
Papanicolopulos Stefanos-Aldo\textsuperscript{1}, Vairaktaris Emmanouil\textsuperscript{2}
1: National Technical University of Athens, Greece

Steady state of solid-grain interfaces during simulated CPT
Marcos Arroyo\textsuperscript{1}, Joanna Butlanska\textsuperscript{1}, Antonio Gens\textsuperscript{1}, O'Sullivan Catherine\textsuperscript{2}
1: Universitat Politècnica de Catalunya, Spain; 2: Imperial College London, UK