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Nota di contenuto

The George E. Brown, Jr., Network for Earthquake Engineering Simulation (NEES): Reducing the impact of EQs and Tsunamis -- A faceted lightweight ontology for earthquake engineering research projects and experiments -- The SERIES Virtual Database: Architecture and Implementation -- The SERIES Virtual Database: Exchange Data Format and local/central databases -- Qualification of seismic research testing facilities in Europe -- Towards Faster Computations and Accurate Execution of Real-Time Hybrid Simulation.-Pseudo-dynamic testing based on non-linear dynamic substructuring of a reinforced concrete bridge -- Geographically distributed continuous hybrid simulation tests using shaking tables -- Hybrid simulations of a piping system based on model reduction techniques -- A Support Platform for Distributed Hybrid Testing -- Substructuring for soil structure interaction using a shaking table -- On the control of shaking tables in acceleration mode -- Refined and simplified numerical models of an isolated old highway bridge for PsD testing. Assessment of the seismic behaviour of a retrofitted old R.C. highway bridge through PsD testing. -Full-scale testing of modern unreinforced thermal insulation clay block masonry houses -- Assessment of innovative solutions for non-load bearing masonry enclosures -- Seismic behaviour of thin-bed layered unreinforced clay masonry frames with T- or L-shaped piers -- Shake Table Testing of a Half-Scaled RC-URM Wall Structure -- Experimental and Numerical Investigation of Torsionally Irregular RC Shear Wall Buildings with Rutherma Breakers -- Assessment of the Seismic Response of Concentrically-Braced Steel Frames -- Shaking table test design to evaluate earthquake capacity of a 3-storey building specimen composed of cast-in-situ concrete walls -- High-Performance Composite-Reinforced Earthquake Resistant Buildings with Self-Aligning Capabilities -- Experimental Study on Seismic Performance of Precast Concrete Shear Wall with Joint Connecting Beam under Cyclic Loadings -- The importance of connections in seismic regions: Full-scale testing of a 3-storey precast concrete building -- Caisson foundations subjected to seismic faulting: reduced-scale physical modeling -- Development of New Infinite Element for Numerical Simulation of Wave Propagation in Soil Media -- Analysis of the dynamic behaviour of squat silos containing grain-like material subjected to shaking table tests - ASESGRAM Final Report -- Multi-Building Interactions and Site-City Effect: an idealized experimental model -- Centrifuge Modeling of Dynamic Behavior of Box Shaped Underground Structures in Sand,- Dynamic Response of Shallow Rectangular Tunnels in Sand by Centrifuge Testing,- Centrifuge Modelling of the Dynamic Behavior of Square Tunnels in Sand -- FLIQ: Experimental Verification of Shallow Foundation Performance under Earthquake-Induced Liquefaction -- Centrifuge modelling of retaining walls embedded in saturated sand under seismic actions -- Experimental and Numerical Investigations of Nonlinearity in Soils Using Advanced Laboratory-scaled Models (ENINALS project): from a site-test to a centrifuge model -- Damping Estimation from Seismic Records -- Development of Wireless Sensors for Shake Table and Full Scale Testing and Health Monitoring of Structures.

Sommario/riassunto

The European Commission in its 7th Framework Programme (2007-2013) supported the largest research project in earthquake engineering, SERIES, which aimed at fostering a sustainable culture of co-operation among all research infrastructures and teams active in European earthquake engineering. In this volume, top seismic experts and researchers from around the world, including the George E. Brown, Jr. Network for Earthquake Engineering Simulation (NEES) in the USA, present the most recent outcome of their work in experimental testing,

as well as the outcomes of the transnational access activities of external researchers who have used Europe's seven largest and most advanced seismic testing facilities in the framework of SERIES. This includes EU’s largest reaction wall facility, EU' s four largest shaking table laboratories and its two major centrifuges. The work presented includes state-of-the-art research towards the seismic design, assessment and retrofitting of structures, as well as the development of innovative research toward new fundamental technologies and techniques promoting efficient and joint use of the research infrastructures. The contents of the volume demonstrate the fruits of the effort of the European Commission in supporting research in earthquake engineering.