

PSEUDO-DYNAMIC TESTING SYSTEMS



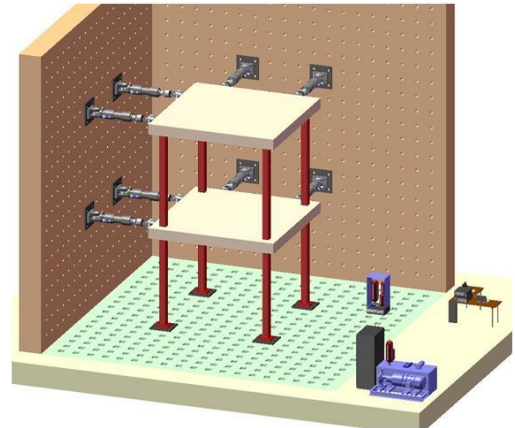
The Pseudo-dynamic Method represents an affordable alternative to test certain types of structures causing them the true deformations that they would suffer in a transient event, but in a quasistatic fashion thanks to the modelling of their inertial and dissipative properties and the identification of their restoring, in general non-linear, properties.

APPLICATIONS

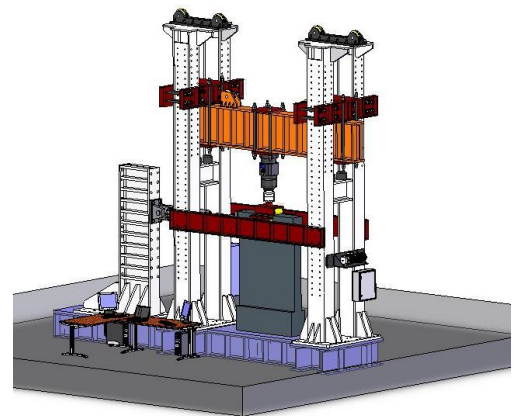
- Civil engineering structures: Multi storey buildings, shear walls, etc. Design and validation of dissipative devices.
- Materials in which the restoring forces do not depend on deformation rate (classical PsD Method)
- Structures in which a lumped mass model can be synthesized.

KEY FEATURES

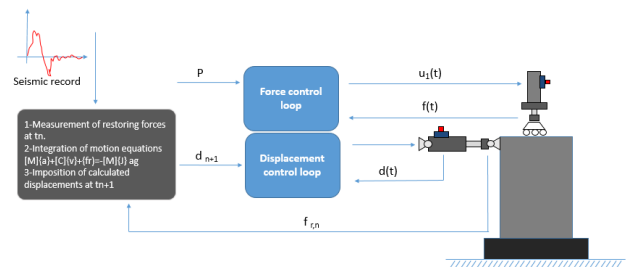
- Static servactuators and low flow rate hydraulic power units and manifolds. Reduced costs.
- Testing method:
 - Modelling of inertial and dissipative properties of the structure.
 - Identification of restoring forces of structure in real time.
 - Integration of the equations of motion by measuring restoring forces and making use of the modelled properties and predefined excitation.
 - Imposition of calculated displacements to the structure.
- Testing software: VZERO PSD for MADC Software and Hardware Suite.
 - Definition of loading, inertial and dissipative properties.
 - Change of coordinate system from actuators to working space
 - Integration of motion equations by several selectable methods; i.e. Newmark Explicit.



Multi-storey PSD testing setup



Shear wall PSD testing setup



Shear wall PSD testing procedure



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