

Evaluation of the Seismic Vulnerability of the National Palace of Sintra: identification of structural anomalies and vulnerability factors

Summary

A study was carried out to analyse the seismic performance and the vulnerability of the National Palace of Sintra (Figure 1). An interdisciplinary approach was called upon that contemplated the following steps:

1. Research, compilation and analysis of historical data relevant to the general characterization of the construction;
2. Field survey of the structure;
3. Definition of the experimental campaign and development of different in-situ experimental tests;

4. Numerical modelling and calibration of the models (Figure 2);
5. Seismic assessment.

With the work developed in this project, Madalena Ponte, a CERIS researcher and PhD student at IST won the second place in the "Innovation Young Engineer Award 2019" by Ordem de Engenheiros.



Figure 1. Aerial view of National Palace of Sintra.

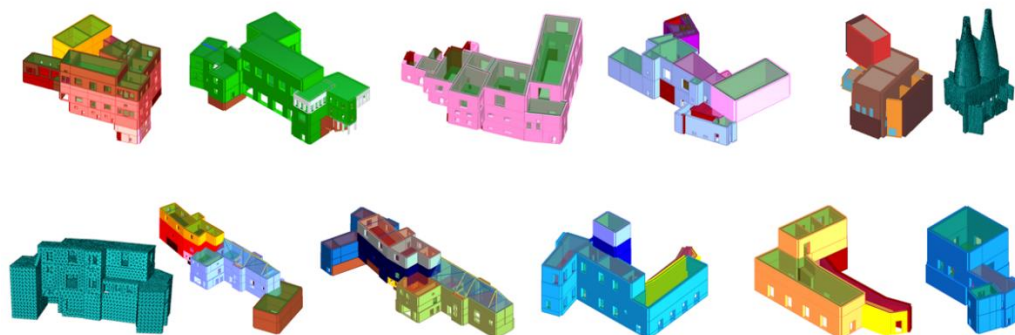


Figure 2. Numerical models of different buildings of the National Palace of Sintra.

Project Reference

PSML – Protocolo

Leading Institution

IST – Instituto Superior Técnico (Portugal)

Partners

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CERIS Principal Investigator

Rita Bento
(rita.bento@tecnico.ulisboa.pt)

CERIS Research Team

Madalena Ponte

Funding

PSML – Parques de Sintra-Monte da Lua

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2017-2019

Total

50 640.00€

CERIS

50 640.00€

Project Website

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