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## **NDE1.0 – A new database of earthquake data recordings from buildings for performance based earthquake engineering, vulnerability assessment and seismic structural health monitoring**

**Philippe Guéguen**, Ariana Astorga, and Subash Ghimire

ISTerre - Université Grenoble-Alpes/CNRS IFSTTAR, CNRS, GRENOBLE CEDEX 9, France ([philippe.gueguen@univ-grenoble-alpes.fr](mailto:philippe.gueguen@univ-grenoble-alpes.fr))

Over the last two decades, seismic ground motion prediction has been significantly improved thanks to the development of shared, open, worldwide databases (waveform and parametric values). Unlike seismic ground motion, earthquake data recorded in buildings are rarely shared. However, their contribution could be essential for evaluating the performance of structures. Increasing interest in deploying instrumentation in buildings gives hope for new observations, leading to better understanding of behavior. This manuscript presents a flat-file containing information on earthquake responses of instrumented buildings. Herein, we present the structure of the NDE1.0 flat-file containing site and earthquake characteristics ( $v_{s30}$ , Magnitude, Distance...), structural response parameters (i.e. drift ratio, peak top values of acceleration, velocity and displacement, pre- and co-seismic fundamental frequencies) computed for several intensity measures characterizing ground motion (peak and spectral values, duration...). The data are from real earthquake recordings collected in buildings over the years. This 1.0 version contains 8,520 strong motion recordings that correspond to 118 buildings and 2,737 events, providing useful information for analyses related to seismic hazard, variability of building responses, structural health monitoring, nonlinear studies, damage prediction, etc. Some specific analysis will be presented concerning seismic structural health monitoring and damage prediction, with a special focus on the engineering demand parameter versus intensity measures variability.