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SEISMIC VULNERABILITY OF BUILDINGS IN THE VIENNA BASIN: A CASE STUDY

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Based on the technology developed in the SYNER-G project, a comprehensive case study covering unreinforced masonry buildings (Gründerzeithäuser) has been performed. It is the intention to enlarge the database of structures and scenarios and to open it for further research to the scientific community. Seismic risk can be computed on regional, local or individual (building) scale. The case study contains specific information on over 1,000 buildings in the Vienna Basin and adjacent villages.

Besides the usual geometric data and earthquake vulnerability assessment information, measurements of the vibrational characteristic of these buildings have been done. A routine that relates the dynamic performance to external parameters has been created. Furthermore relevant ground motion prediction equations (GMPEs) following the recommendation of SHARE have been programmed and implemented. This allows computation of various earthquake scenarios at the EQvis platform. This platform is an open-source IT tool for free download. This modular IT system has been considerably enlarged with routines on vulnerability at systemic level and a multi-factor decision support system covering socio-economic aspects has been added.

A presentation is offered that explains the concept and current status of the IT tools and provides a trial run of the Vienna Basin case study.

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