



Towards Urgent Earthquake 3D Simulations for Disaster Resilience

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Seismic scenario simulations can provide with accurate shaking maps for earthquakes, given a sufficient precision in the fault rupture parameters and geological information. As such, they are very useful to analyze hypothetical events or to study past events post-mortem. Although computational cost is still high for high-resolution 3D simulations, modern supercomputers and parallel runs can help reduce dramatically end-to-end simulation times. We propose building an automated system to simulate recently occurring seismic events. The objective is obtaining affectation maps that can be useful in the associated relief efforts and providing with a physically sound early damage assessment.

Special attention must be given to early uncertainties in the source characteristics and soil effects that cannot be directly resolved with simulations. Similarly, all pre- and post-processing steps must be streamlined in order to obtain meaningful results in as few time as possible.

We will present preliminary ideas of the workflows and software/hardware characteristics of the system under development within the framework of the ChEESE Center of Excellence (CoE) in Solid Earth.