AcceleROB: measuring earthquake strong ground motion in Belgium

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Although usually of relatively small magnitude, earthquakes occur regularly in Belgium. 3 to 5 earthquakes are felt every year on average. The Belgian seismic network is one of the densest in the world, but still, it is impossible to have professional-grade seismometers every 10 or 20 km all over the country. Since 2002, the ROB runs a web-based "Did You Feel It?" inquiry, which allows citizens to witness the impact of an earthquake at their location. The information obtained from the seismometers (the ground motion) and from the citizens (the intensity) can be combined to define a map of the ground motion for each earthquake, but will always lack "ground truth" ground movements. With AcceleROB, we propose to deploy 90 small-scale, relatively low-cost accelerometric stations all over Belgium. With 90 stations, we can have a 15-km spaced grid of sensors. 13 of these sensors are already installed, 10 are available and 67 are in construction. This CNBGG meeting is a good occasion to present the equipment and to propose members to host an AcceleROB at their home. All that is required is to have a permanent internet connection, an available power plug in the basement (or any place in direct contact with the ground) and some small place on the ground (max 30x30cm). The measurements will be sent automatically and in real time to the ROB processing server, and will provide acceleration values every 125th of a second on 3 components.