Bulletin of the Seismological Society of America, Vol. 96, No. 3, pp. 1–, June 2006, doi: 10.1785/0120060046

ERRATUM

Bulletin of the Seismological Society of America
Vol. 95, No. 6, pp. 2342–2363, December 2005

Assessment of Ground Motion in Palermo, Italy, during the 6 September 2002 M_w 5.9 Earthquake Using Source Scaling Law

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In Calderoni *et al.*, 2005, a section of text that was present in the original manuscript was inadvertently deleted during composition. The section entitled "Random Summation of Aftershocks (RNDS)" is printed correctly below.

Random Summation of Aftershocks (RNDS)

RNDS (Joyner and Boore, 1986) generates synthetic seismograms of the target earthquake at a generic station (STAT) through the following equation:

$$\mathrm{GM}^{\mathrm{Main}}_{\mathrm{STAT}}(t) = \sum_{j=1}^{N} w\,\mathrm{GM}^{\mathrm{After}}_{\mathrm{STAT}}(\tau_j - t), \qquad (13)$$

where $\mathrm{GM}^{\mathrm{After}}_{\mathrm{STAT}}(t)$ is the ground-velocity time history of a colocated subevent recorded at the same station. Time histories were preprocessed similarly to the ESR technique and randomly added with a shift time T_j uniformly distributed between 0 and source duration T. According to Joyner and Boore (1986), the scaling factor w and the total number N in summation (13) are obtained through the ratios of the seismic moments of the two events

$$w = \left(\frac{M_{0,\mathrm{Main}}}{M_{0,\mathrm{After}}}\right)^{1/3} \qquad (14)$$

$$N = \left(\frac{M_{0,\mathrm{Main}}}{M_{0,\mathrm{After}}}\right)^{4/3} \qquad (15)$$

under the assumption of an omega-square model with constant stress drop. The value of the mainshock duration T was fixed at 5 sec.

We tested the prediction suitability of this method by comparing the mainshock recording of TORT with simulations derived through (13) using the same aftershocks (nos. 96, 97, and 113) selected in the test of the preceding method. Figure 10a indicates that for events 96 and 97 the synthetic waveforms reproduce the real recordings with a satisfactory agreement in terms of amplitude and durations. Event 113 underestimates amplitudes by a factor of 2, approximately, which is still acceptable in the practice of ground-motion prediction.

References

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Manuscript received 3 March 2006.