

Date: 30 July 2005

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I noticed in the attached plot of events terms (which, incidently, shows the magnitude scaling that we will probably use, and the fact that there is very little mechanism dependence) that the Duzce event stands out like a sore thumb. Has anyone else noticed this? (The event terms used data for $r_{jb} \leq 80$ km, but I show all distances in the three plots of p_{sa} vs distance; also note that the event terms are log base 10, so the Duzce motions seems to be about a factor of 3 lower than normal, for longer periods).

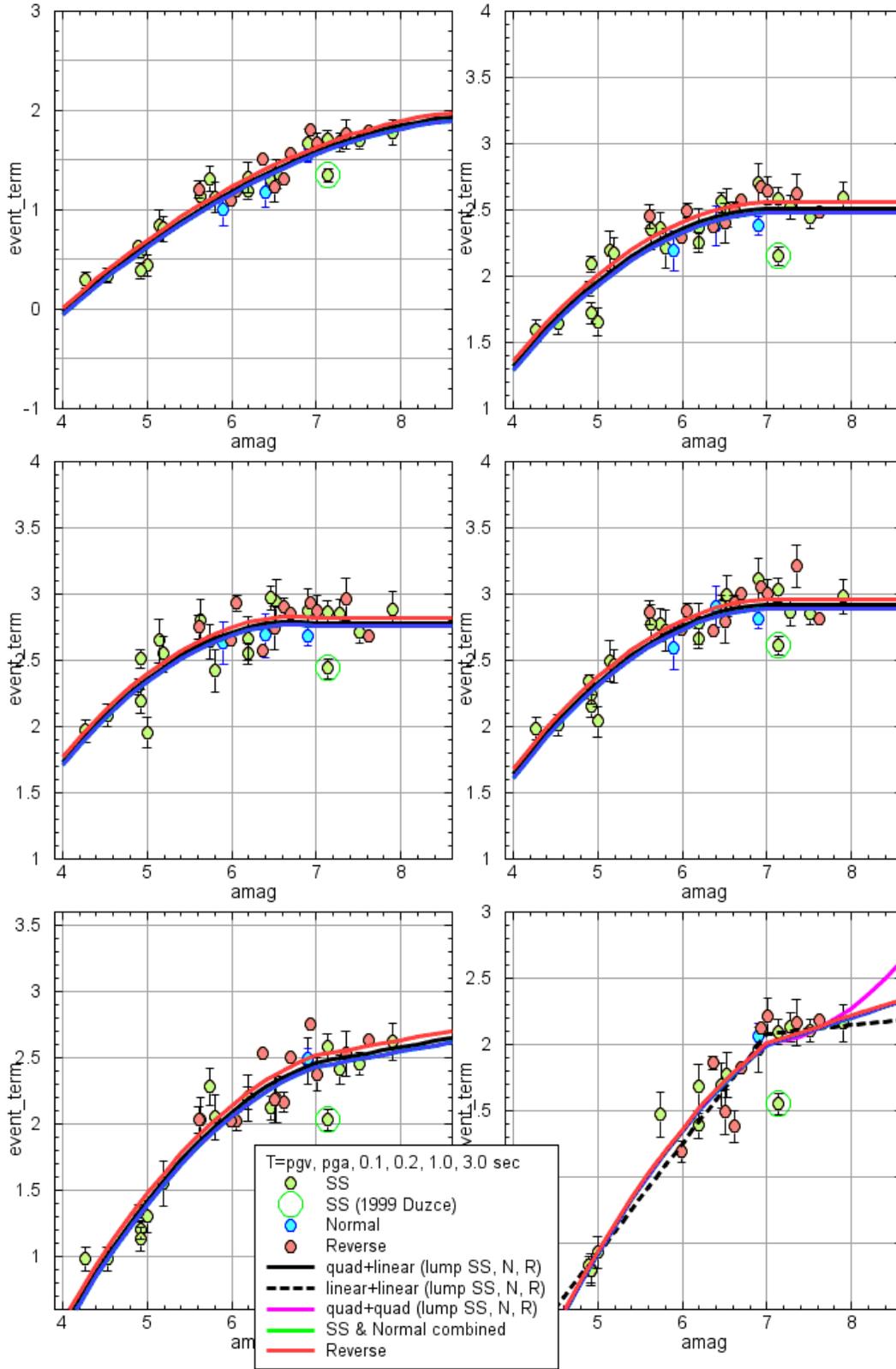
Following this plot are plots for three earthquakes with similar magnitude (corrected for site response to $V_{ref} = 760$ m/s, using the BJK factors). It turns out that most of the Duzce $V_{30} > 360$ m/s records are from Lamont stations, and it was recognized earlier in the NGA project that the records from these stations seemed to be peculiar--- but I cannot remember details. I've indicated the Lamont stations in the plots. Although there is little distance overlap in the Lamont vs other stations, the more distant stations for the Duzce earthquake seem low with respect to the other events, so perhaps there is nothing peculiar about the Lamont stations. Is the M for Duzce correct? Are the records really from the Duzce mainshock, or from one of the aftershocks?

Note added on 17 November 2006: John Douglas pointed out that Ambraseys et al. (2005) also found that the ground motions from Duzce are lower than average.

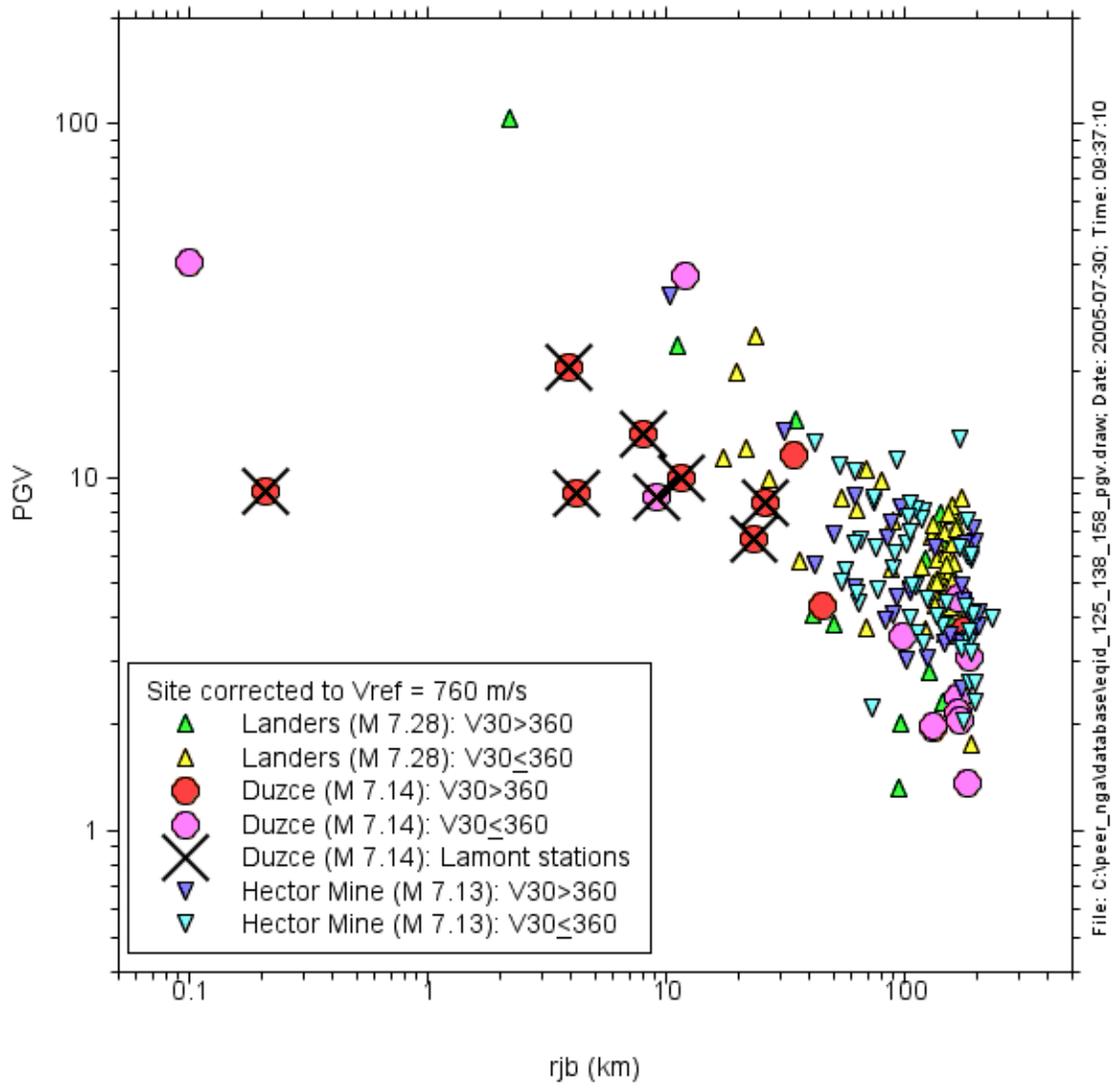
References

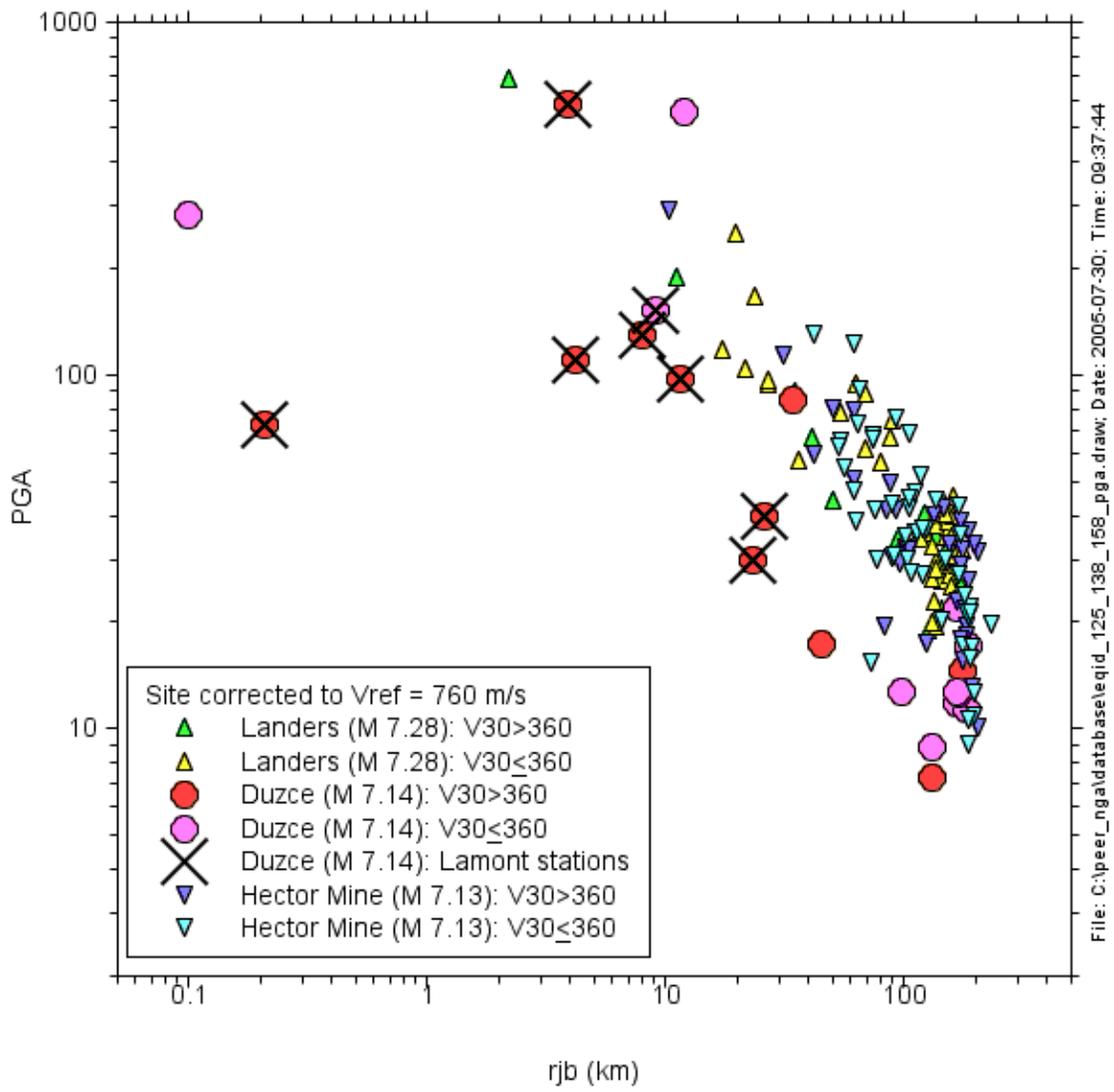
Ambraseys, N. N., J. Douglas, and S. K. Sarma (2005). Equations for the estimation of strong ground motions from shallow crustal earthquakes using data from Europe and the Middle east: Horizontal peak ground acceleration and spectral acceleration, *Bull. Earthquake Engineering* **3**, 1—53.

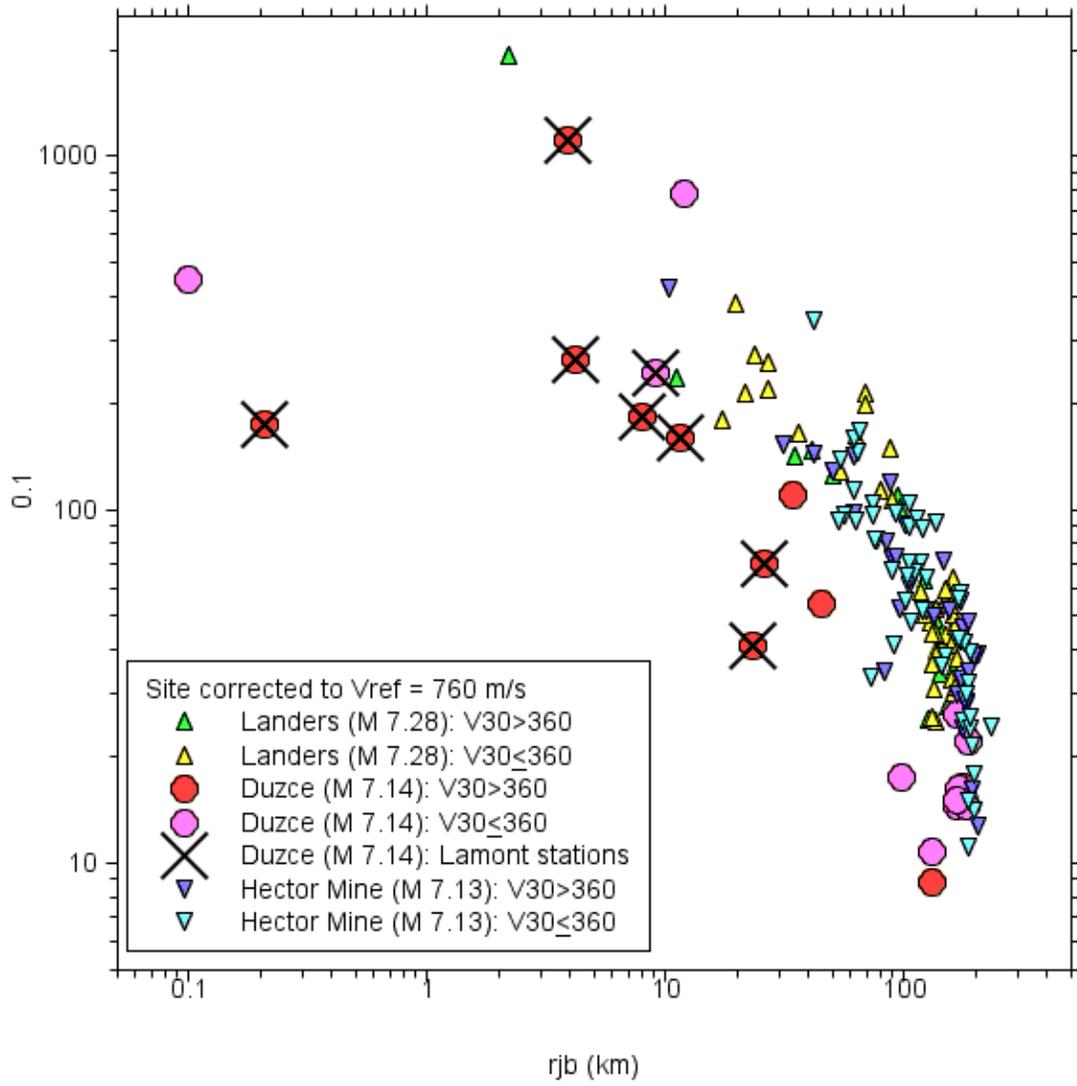
Rathje, Ellen (2003?). Strong Ground Motions and Site Effects During the 1999 Duzce Earthquake, unpublished manuscript, Univ. of Texas.



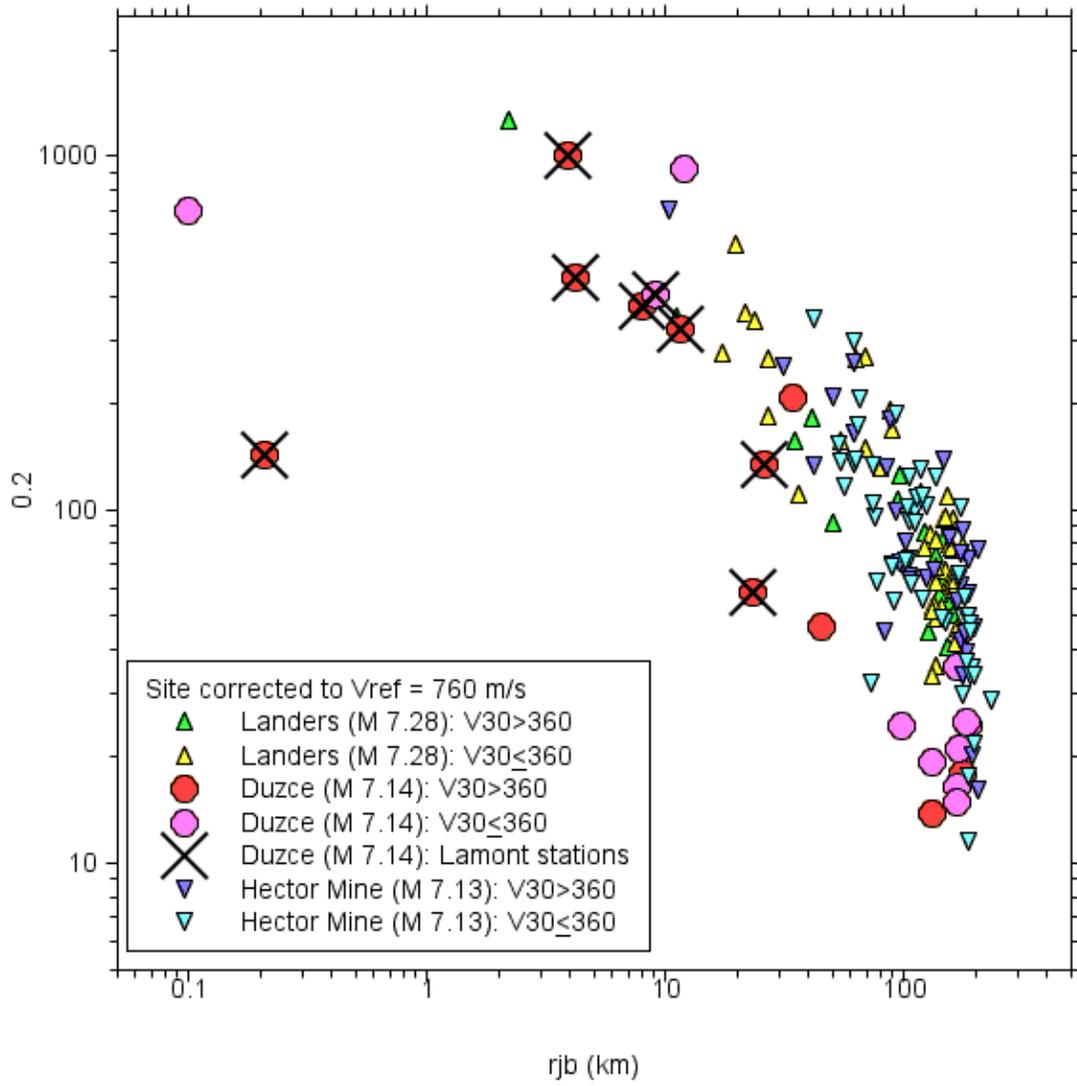
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