

Reply to H. Ohtani (Referee)

Original Comment:

The proposed calculation formula of post-earthquake fire total loss *EFL* shown in the paper is very simple, and related parameters are seemed to be reasonable. However, reliability of the *EFL* and related parameters depend strongly on statistical data published elsewhere. I cannot reach the data, so cannot evaluate reliability of the paper. If possible the authors may present sample data of each databases.

Response:

Thank you very much for your comment. As you have mentioned, reliability of the *EFL* and related parameters depend strongly on statistical data published elsewhere. Therefore, in order to make computation more explicit, we will insert Figure 1-n into Page 1782 Line 8 and Table 1-n Page 1782 Line 14.

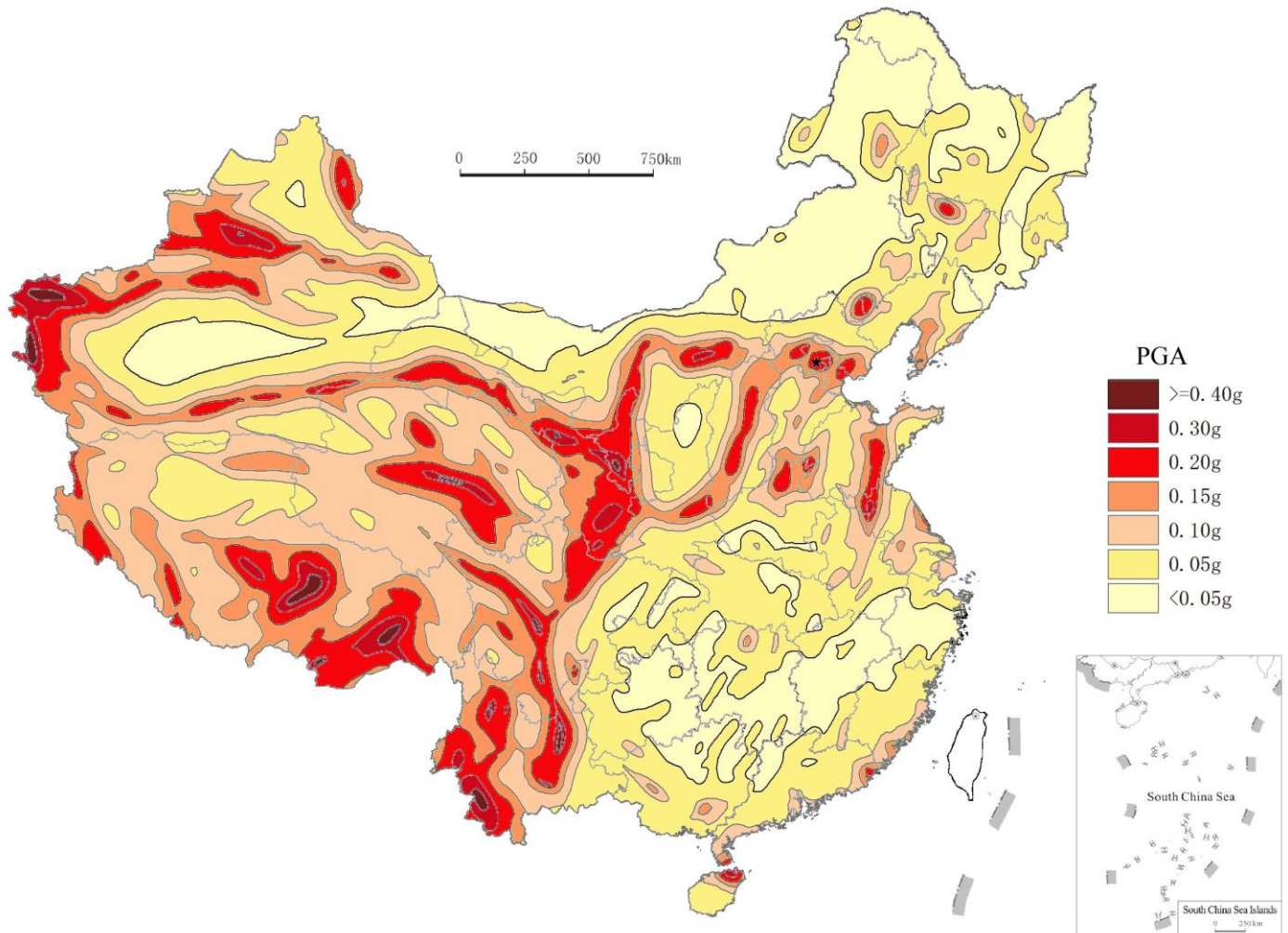


Fig 1-n. Seismic ground motion parameter zonation map of China
 [Source: China Earthquake Administration: Seismic ground motion parameter zonation map of China(GB18306-2001), China Standards Press, Beijing, China, 2001]

Table 1-n The vulnerability matrix of industrial factory buildings

	Collapse	Serious damage	Medium damage	Slight damage	Basically intact
$P(D_j/R_i =6)$	0	0	0.07	0.2	0.73
$P(D_j/R_i =7)$	0	0.03	0.12	0.28	0.57
$P(D_j/R_i =8)$	0.02	0.15	0.31	0.28	0.24
$P(D_j/R_i =9)$	0.05	0.25	0.4	0.2	0.1

Source: Earthquake loss prediction research team of China Earthquake Administration, 1990

As you suggest that if possible the authors may present sample data of each databases, we will select the Heping District of Tianjin City as a sample and insert Table 2-n into Page 1785 Line 15.

Table 2-n. Expected loss of earthquake-fire for the petrochemical enterprises in the Heping District of Tianjin City

Petrochemical enterprises	PE ₁	PE ₂	PE ₃	PE ₄	Total
Fixed Assets of those in Tianjin City (10 000RMB) *	7432100	2179400	30300	1390700	
Fixed Assets of those in Heping District W_k (10 000RMB)	201806.96	59178.17	822.75	37762.27	
Earthquake loss of those in Heping District EL (10 000RMB)	49018.91	14374.38	199.85	9172.45	72765.59
Residual values of those in Heping District W_k' (10 000RMB)	152788.0	44803.79	622.90	28589.81	226804.5
Fire loss of those in Heping District FL (10 000RMB)	28.86	21.68	0.089	8.27	58.90
Total loss EFL (10 000RMB)	49047.77	14396.06	199.9344	9180.729	72824.49
Expected Loss Per Unit Area (10 000 RMB/km ²)	4619.57	1355.89	18.83	864.69	6858.98

Source: Authors;
the item marked by asterisk is collected from
Leading Group Office of the Second China Economic Census of the State Council (2010).

In our online Discussion paper, those data in Table 4 and the petrochemical enterprise fire loss rate l_f come from hundreds of records we collect from different statistical yearbooks. Because of the limited length of our paper, we are not able to post on all records. If any readers are interested in them, please send us email for copies.