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Erratum to
Regional Stochastic GMPEs in Low-Seismicity Areas: Scaling and Aleatory Variability Analysis—Application to the French Alps

by Stéphane Drouet*

A mistake was included in figure 14 of Drouet and Cotton (2015). The stochastic ground-motion prediction equation (GMPE) shown in the figure is the one based on the rupture distance (R_{rup}) instead of the Joyner–Boore distance (R_{JB}). Drouet and Cotton (2015) provided four sets of coefficients depending on which distance metric is used as the predictor variable. To compare with the Rietbrock *et al.* (2013) GMPE that uses R_{JB}, the same distance metric must be used for the Drouet and Cotton (2015) GMPE. Figure 1 is the corrected version of figure 14 of Drouet and Cotton (2015). The Drouet and Cotton (2015) GMPE and the Rietbrock *et al.* (2013) GMPE, including a magnitude-dependent stress parameter, are much closer at short distances than what was shown and discussed in the original article.

In addition, the electronic supplement to the Drouet and Cotton (2015) article only includes coefficients for the stochastic GMPE corresponding to standard-rock condition ($V_{S30} = 800$ m/s and $\kappa = 0.03$ s). The coefficients for the hard-rock site ($V_{S30} = 2000$ m/s and $\kappa = 0.01$ s) are provided in Tables 1–4 for four different distance metrics.

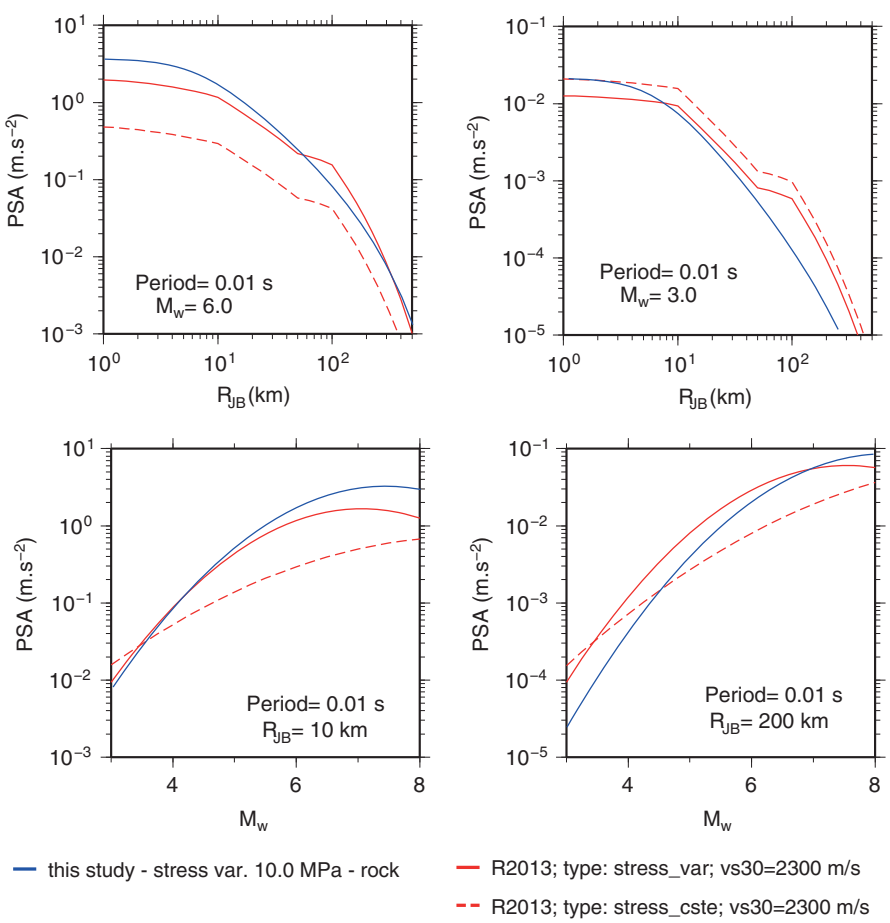

Figure 1. Comparison of stochastic model for the United Kingdom (Rietbrock *et al.*, 2013) and the Drouet and Cotton (2015) model using variable stress drop with a plateau of 10 MPa for rock sites. The color version of this figure is available only in the electronic edition.

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Table 1

Coefficients for the Stochastic Ground-Motion Prediction Equation (GMPE) for the Alps Using R_{epi} and Hard-Rock Site Conditions ($V_{S30} = 2000$ m/s and $\kappa = 0.01$ s)

Period (s)	b_1	b_2	b_3	b_4	b_5	b_6	b_7	σ*	$\tau^\dagger$	σ_{tot}
PGV	1.453087	−0.057150	−0.235736	−2.395436	0.211467	7.957970	−0.002998	0.598554	0.432545	0.738486
PGA	4.198896	−0.725712	−0.279239	−2.685851	0.211701	8.868349	−0.004976	0.668901	0.541172	0.860404
0.010	4.280953	−0.742833	−0.280160	−2.726267	0.214180	8.825554	−0.004845	0.683085	0.543146	0.872704
0.020	4.870686	−0.844591	−0.282767	−3.005948	0.231235	9.104488	−0.003997	0.737359	0.552261	0.921244
0.030	5.606980	−0.855373	−0.280735	−3.168131	0.233287	10.277129	−0.003738	0.743021	0.551848	0.925536
0.040	5.607137	−0.847563	−0.276241	−3.129571	0.233903	10.256513	−0.004722	0.735433	0.556826	0.922452
0.050	5.685271	−0.784347	−0.273823	−2.987484	0.220116	10.530324	−0.005816	0.722746	0.553388	0.910275
0.075	5.315349	−0.690620	−0.272702	−2.647489	0.197397	9.988792	−0.007599	0.697352	0.548807	0.887406
0.100	4.921405	−0.635287	−0.271922	−2.413453	0.183956	9.110885	−0.008568	0.683849	0.548856	0.876865
0.150	4.586203	−0.496201	−0.276293	−2.018875	0.148836	8.188120	−0.008866	0.659367	0.538381	0.851246
0.200	4.285404	−0.428313	−0.278456	−1.882710	0.140156	7.462946	−0.008024	0.641610	0.527206	0.830427
0.250	4.060798	−0.449211	−0.289962	−1.851356	0.138878	7.146858	−0.007374	0.629415	0.519579	0.816165
0.300	4.169405	−0.459324	−0.305454	−1.834284	0.128357	8.042983	−0.006461	0.618114	0.507458	0.799737
0.400	4.163554	−0.512785	−0.328897	−1.886542	0.127893	8.702098	−0.005143	0.609924	0.491408	0.783255
0.500	3.887845	−0.472417	−0.342631	−1.760040	0.119604	7.852130	−0.004909	0.601691	0.478750	0.768917
0.750	3.692737	−0.443196	−0.360804	−1.840290	0.125998	8.226868	−0.003322	0.595642	0.448708	0.745740
1.000	3.694925	−0.349219	−0.363280	−1.931108	0.132320	9.033621	−0.002099	0.590175	0.422143	0.725611
1.250	3.576295	−0.251890	−0.366488	−1.881893	0.126648	9.129843	−0.001675	0.587606	0.412574	0.717982
1.500	3.353014	−0.164563	−0.365540	−1.850916	0.129019	8.407176	−0.001650	0.586684	0.405750	0.713324
1.750	3.389227	−0.141213	−0.365241	−1.935365	0.135130	9.014006	−0.001451	0.582954	0.399830	0.706894
2.000	3.193535	−0.070763	−0.361524	−1.885294	0.131871	8.742877	−0.001828	0.580564	0.397018	0.703333
3.000	2.655991	0.336601	−0.312845	−1.803880	0.136056	8.023762	−0.001980	0.579737	0.380198	0.693286

PGV, peak ground velocity; PGA, peak ground accelerarion.

*Within-event standard deviation (σ).

†Between-event standard deviation (τ).

Table 2

Coefficients for the Stochastic GMPE for the Alps Using R_{JB} and Hard-Rock Site Conditions ($V_{S30} = 2000$ m/s and $\kappa = 0.01$ s)

Period (s)	b_1	b_2	b_3	b_4	b_5	b_6	b_7	σ*	$\tau^\dagger$	σ_{tot}
PGV	0.942202	−0.096360	−0.249846	−2.159260	0.184686	6.157444	−0.003121	0.580515	0.435237	0.725554
PGA	3.502871	−0.802486	−0.302312	−2.370875	0.175248	6.729398	−0.005136	0.638637	0.543828	0.838812
0.010	3.565304	−0.821883	−0.303466	−2.407764	0.177715	6.690289	−0.005018	0.652676	0.545900	0.850878
0.020	4.050992	−0.929762	−0.307473	−2.657718	0.193282	6.900732	−0.004243	0.705755	0.555220	0.897975
0.030	4.691048	−0.935742	−0.307451	−2.765942	0.190873	7.739100	−0.004172	0.710803	0.554633	0.901587
0.040	4.715972	−0.923929	−0.303375	−2.719416	0.189440	7.681047	−0.005159	0.702242	0.559697	0.898000
0.050	4.808292	−0.859750	−0.301940	−2.566466	0.173602	7.810588	−0.006302	0.689282	0.556118	0.885651
0.075	4.542852	−0.769721	−0.300791	−2.255961	0.151510	7.345139	−0.008009	0.663297	0.551312	0.862501
0.100	4.234265	−0.722066	−0.299397	−2.062668	0.140698	6.696867	−0.008837	0.649414	0.551174	0.851781
0.150	3.963638	−0.600023	−0.303078	−1.725046	0.111277	5.978048	−0.008991	0.625353	0.540408	0.826503
0.200	3.713795	−0.535134	−0.303177	−1.633263	0.107606	5.520753	−0.008014	0.609284	0.529124	0.806969
0.250	3.493820	−0.555508	−0.313442	−1.617051	0.108770	5.291459	−0.007346	0.597736	0.521516	0.793264
0.300	3.537878	−0.561992	−0.329149	−1.575924	0.097991	5.826652	−0.006631	0.588055	0.509204	0.777880
0.400	3.457062	−0.607230	−0.351710	−1.604230	0.098077	6.188413	−0.005544	0.581860	0.492997	0.762632
0.500	3.243511	−0.575336	−0.364464	−1.522954	0.093691	5.669695	−0.005098	0.574114	0.480631	0.748741
0.750	3.036025	−0.535625	−0.380749	−1.604625	0.101926	5.996742	−0.003561	0.570709	0.450864	0.727315
1.000	3.016962	−0.428035	−0.381852	−1.682332	0.108400	6.620164	−0.002443	0.568420	0.424469	0.709419
1.250	2.919868	−0.330748	−0.384517	−1.647261	0.104126	6.748230	−0.001949	0.567403	0.415070	0.703014
1.500	2.749652	−0.245843	−0.382722	−1.644734	0.108446	6.307728	−0.001765	0.566314	0.408666	0.698369
1.750	2.760364	−0.215730	−0.382466	−1.709401	0.113070	6.751567	−0.001667	0.563170	0.402998	0.692508
2.000	2.553832	−0.147150	−0.378930	−1.656279	0.109779	6.450533	−0.002089	0.560557	0.400305	0.688817
3.000	2.148241	0.267200	−0.328069	−1.623369	0.116390	6.117724	−0.001925	0.562644	0.382704	0.680464

*Within-event standard deviation (σ).

†Between-event standard deviation (τ).

References

Drouet, S., and F. Cotton (2015). Regional stochastic GMPEs in low-seismicity areas: Scaling and aleatory variability analysis—Application to the French Alps, *Bull. Seismol. Soc. Am.* **105,** no. 4, 1883–1902, doi: 10.1785/0120140240.

Table 3

Coefficients for the Stochastic GMPE for the Alps Using R_{hypo} and Hard-Rock Site Conditions (V_{S30} = 2000 m/s and κ = 0.01 s)

Period (s)	b_1	b_2	b_3	b_4	b_5	b_6	b_7	σ*	$\tau^{\dagger}$	σ_{tot}
PGV	1.503464	−0.076362	−0.239730	−2.410988	0.211580	3.221740	−0.002925	0.583454	0.408088	0.712007
PGA	4.201352	−0.737321	−0.283657	−2.670056	0.209823	4.456104	−0.005084	0.653222	0.516623	0.832825
0.010	4.288248	−0.755638	−0.284695	−2.712990	0.212421	4.428086	−0.004939	0.667212	0.517849	0.844594
0.020	4.874345	−0.858440	−0.287527	−2.991853	0.229451	4.964363	−0.004094	0.721552	0.524782	0.892207
0.030	5.514994	−0.858034	−0.285161	−3.110043	0.229479	6.354667	−0.004093	0.729341	0.526239	0.899370
0.040	5.448641	−0.843753	−0.280722	−3.040707	0.228799	5.965006	−0.005282	0.720304	0.530300	0.894458
0.050	5.532571	−0.778734	−0.278055	−2.899015	0.214844	6.286043	−0.006357	0.709285	0.529376	0.885056
0.075	5.214094	−0.687309	−0.276736	−2.578440	0.192806	5.504908	−0.008023	0.684365	0.526187	0.863266
0.100	4.910658	−0.641348	−0.276106	−2.385394	0.181200	4.487291	−0.008743	0.670372	0.526536	0.852431
0.150	4.662478	−0.512097	−0.280364	−2.034438	0.148271	3.354935	−0.008775	0.646539	0.518644	0.828857
0.200	4.462378	−0.454157	−0.282484	−1.946059	0.141637	2.801928	−0.007603	0.629145	0.507928	0.808588
0.250	4.256096	−0.478835	−0.294039	−1.927149	0.141151	2.306312	−0.006878	0.615946	0.499967	0.793320
0.300	4.258439	−0.477306	−0.309222	−1.860333	0.128499	3.405061	−0.006301	0.606533	0.490911	0.780305
0.400	4.157978	−0.523822	−0.332503	−1.874710	0.126801	4.029080	−0.005248	0.598586	0.475528	0.764482
0.500	4.025056	−0.493907	−0.346254	−1.807517	0.120533	3.593387	−0.004592	0.591428	0.464013	0.751728
0.750	3.781564	−0.461675	−0.364323	−1.869546	0.126409	4.046692	−0.003135	0.585469	0.433454	0.728462
1.000	3.698977	−0.360560	−0.366579	−1.925215	0.131459	4.923044	−0.002149	0.580757	0.406990	0.709168
1.250	3.565335	−0.261563	−0.369684	−1.869495	0.125508	4.997219	−0.001764	0.578584	0.397992	0.702251
1.500	3.425292	−0.181352	−0.368877	−1.873717	0.129166	4.382157	−0.001500	0.577384	0.390016	0.696767
1.750	3.421376	−0.154060	−0.368402	−1.941200	0.134671	5.133325	−0.001417	0.574363	0.384719	0.691304
2.000	3.227255	−0.084883	−0.364789	−1.893149	0.131623	4.680092	−0.001790	0.571400	0.381164	0.686865
3.000	2.668543	0.321383	−0.316237	−1.807166	0.136069	3.132971	−0.002003	0.568302	0.363028	0.674356

*Within-event standard deviation (σ).

†Between-event standard deviation (τ).

Table 4

Coefficients for the Stochastic GMPE for the Alps Using R_{rup} and Hard-Rock Site Conditions (V_{S30} = 2000 m/s and κ = 0.01 s)

Period (s)	b_1	b_2	b_3	b_4	b_5	b_6	b_7	σ*	$\tau^{\dagger}$	σ_{tot}
PGV	1.011632	−0.186467	−0.244724	−2.402830	0.213372	3.604144	−0.002514	0.561838	0.404482	0.692292
PGA	3.656222	−0.887864	−0.296336	−2.637227	0.204462	4.534131	−0.004392	0.619947	0.512710	0.804491
0.010	3.729653	−0.909898	−0.297406	−2.683317	0.207673	4.522980	−0.004230	0.633797	0.513741	0.815861
0.020	4.229542	−1.020987	−0.301039	−2.946183	0.224422	4.809072	−0.003412	0.686340	0.519751	0.860932
0.030	4.800663	−1.007592	−0.300977	−2.995890	0.217461	5.579850	−0.003639	0.692279	0.520869	0.866346
0.040	4.797203	−0.995255	−0.296833	−2.941575	0.216154	5.394204	−0.004702	0.682523	0.525089	0.861137
0.050	4.901700	−0.923699	−0.295554	−2.776188	0.198405	5.550909	−0.005858	0.671369	0.524292	0.851832
0.075	4.677298	−0.835453	−0.294660	−2.479707	0.176586	5.096348	−0.007449	0.646832	0.521721	0.831014
0.100	4.442685	−0.796743	−0.293407	−2.325256	0.167820	4.589685	−0.008025	0.633601	0.522194	0.821058
0.150	4.270862	−0.677412	−0.297536	−2.019335	0.138622	4.165836	−0.007885	0.612083	0.514625	0.799678
0.200	4.076904	−0.618200	−0.297937	−1.952840	0.135779	3.926013	−0.006700	0.597253	0.504507	0.781817
0.250	3.869013	−0.644133	−0.308331	−1.950835	0.138083	3.735393	−0.005947	0.585145	0.496466	0.767381
0.300	3.846701	−0.635600	−0.324197	−1.858026	0.123492	4.126070	−0.005521	0.576001	0.487258	0.754452
0.400	3.701521	−0.676042	−0.346850	−1.857232	0.122281	4.326213	−0.004628	0.569060	0.472191	0.739455
0.500	3.581793	−0.648656	−0.359793	−1.810204	0.118586	4.145801	−0.003899	0.563491	0.460619	0.727799
0.750	3.299801	−0.607702	−0.376203	−1.865855	0.126182	4.279235	−0.002565	0.559378	0.429962	0.705529
1.000	3.182887	−0.491713	−0.377441	−1.896308	0.130298	4.655163	−0.001755	0.556805	0.403581	0.687684
1.250	3.053846	−0.390596	−0.380238	−1.843008	0.124912	4.693096	−0.001370	0.556205	0.394117	0.681683
1.500	2.930072	−0.313580	−0.378480	−1.869066	0.130964	4.378112	−0.001013	0.555172	0.385029	0.675621
1.750	2.895911	−0.277205	−0.378207	−1.907801	0.134048	4.716636	−0.001074	0.552129	0.379229	0.669822
2.000	2.720867	−0.212507	−0.374663	−1.872189	0.131758	4.479180	−0.001385	0.549159	0.375092	0.665034
3.000	2.281596	0.195816	−0.323947	−1.840794	0.139554	3.944804	−0.001255	0.550117	0.354813	0.654615

*Within-event standard deviation (σ).

†Between-event standard deviation (τ).

Rietbrock, A., F. O. Strasser, and B. Edwards (2013). A stochastic earthquake ground-motion prediction model for the United Kingdom, *Bull. Seismol. Soc. Am.* **103,** 57–77.

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