Erratum

Erratum to "Very Preliminary Reference Moon Model", by R.F. Garcia, J. Gagnepain-Beyneix, S. Chevrot, P. Lognonné [Phys. Earth Planet. Inter. 188 (2011) 96–113]

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After publication of this paper we noticed some mistakes in the a priori deep moonquake locations used for waveform data analysis (Table 2), and an error in the final computation of pressure inside the Moon (Table 6 and Fig. 19).

The locations given in Table 2 are not exactly similar to the ones given in Gagnepain-Beyneix et al. (2006), due to a data

reprocessing of some events after publication of the 2006 paper. The latitude of event A10 is opposite to the one given in Table 2 of the paper, and recent studies suggest that this event cluster is identical to A24 event cluster (Y. Nakamura, personal communication). However, this error does not affect the results because this event is not used for the inversion of mantle structure

Table 6
VPREMOON model: on the left the seismic model and on the right the geodesic model in which Moho depth as been corrected to 40 km. Attenuation parameters are extracted from previous studies (Nakamura and Koyama, 1982; Nakamura et al., 1982) and arbitrarily fixed in the deep mantle. Seismic velocities and attenuation parameters inside the core are arbitrarily fixed by the authors.

Radius (in km)	V_P (in km/s)	V_S (in km/s)	Density (in kg/cm^3)	Q_P	Q_S	Radius (in km)	Density (in kg/cm^3)	Gravity (m/s^2)	Pressure (in GPa)
1737.1	1.00	0.50	2.600	6750.0	6750.0	1737.1	2.600	1.6248	0.0000
1736.1	1.00	0.50	2.600	6750.0	6750.0	1736.1	2.600	1.6245	0.0042
1736.1	3.20	1.80	2.762	6750.0	6750.0	1736.1	2.762	1.6245	0.0042
1725.1	3.20	1.80	2.762	6750.0	6750.0	1725.1	2.762	1.6196	0.0535
1725.1	5.50	3.30	2.762	6750.0	6750.0	1725.1	2.762	1.6196	0.0535
1709.1	5.50	3.30	2.762	6750.0	6750.0	1709.1	2.762	1.6127	0.1249
1709.1	7.54	4.34	3.312	6750.0	6750.0	1697.1	2.762	1.6076	0.1783
1697.1	7.55	4.34	3.314	6750.0	6750.0	1697.1	3.314	1.6076	0.1783
1671.7	7.57	4.35	3.318	9000.0	4000.0	1671.7	3.318	1.5851	0.3127
1647.1	7.59	4.36	3.322	9000.0	4000.0	1647.1	3.322	1.5632	0.4413
1627.1	7.61	4.37	3.325	9000.0	4000.0	1627.1	3.325	1.5454	0.5446
1607.1	7.63	4.38	3.329	9000.0	4000.0	1607.1	3.329	1.5276	0.6469
1587.1	7.64	4.39	3.332	9000.0	4000.0	1587.1	3.332	1.5098	0.7480
1567.1	7.66	4.40	3.335	9000.0	4000.0	1567.1	3.335	1.4920	0.8481
1547.1	7.68	4.40	3.338	9000.0	4000.0	1547.1	3.338	1.4741	0.9470
1527.1	7.69	4.41	3.341	9000.0	4000.0	1527.1	3.341	1.4562	1.0449
1502.0	7.71	4.42	3.344	9000.0	4000.0	1502.0	3.344	1.4338	1.1661
1487.1	7.72	4.43	3.346	9000.0	4000.0	1487.1	3.346	1.4204	1.2373
1461.7	7.74	4.44	3.350	3375.0	1500.0	1461.7	3.350	1.3976	1.3571
1447.1	7.75	4.44	3.352	3375.0	1500.0	1447.1	3.352	1.3845	1.4251
1427.1	7.77	4.45	3.355	3375.0	1500.0	1427.1	3.355	1.3666	1.5174
1407.1	7.78	4.45	3.357	3375.0	1500.0	1407.1	3.357	1.3486	1.6085
1387.1	7.80	4.46	3.360	3375.0	1500.0	1387.1	3.360	1.3306	1.6985
1367.1	7.81	4.47	3.363	3375.0	1500.0	1367.1	3.363	1.3126	1.7874
1347.1	7.82	4.47	3.365	3375.0	1500.0	1347.1	3.365	1.2946	1.8751

Table 6 (*continued*)

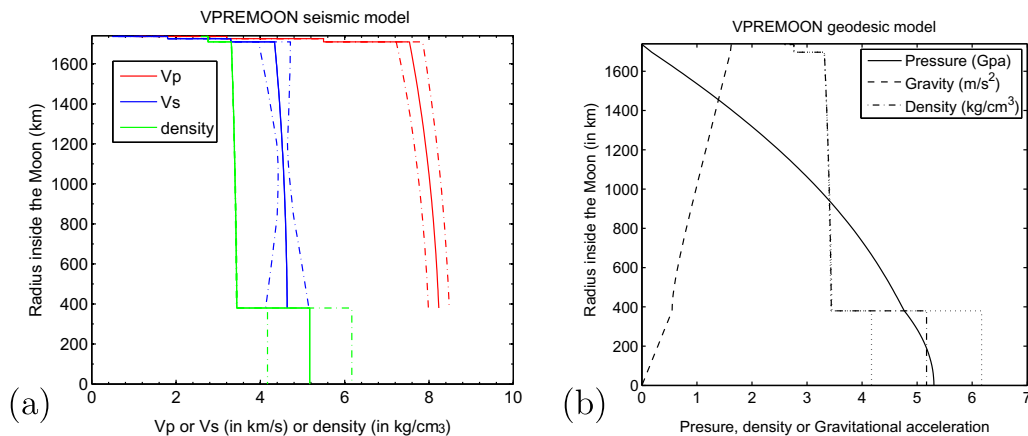| Radius (in km)	V_P (in km/s)	V_S (in km/s)	Density (in kg/cm³)	Q_P	Q_S	Radius (in km)	Density (in kg/cm³)	Gravity (m/s²)	Pressure (in GPa)
1327.1	7.84	4.48	3.368	3375.0	1500.0	1327.1	3.368	1.2766	1.9616
1307.1	7.85	4.49	3.370	3375.0	1500.0	1307.1	3.370	1.2586	2.0470
1287.1	7.86	4.49	3.373	3375.0	1500.0	1287.1	3.373	1.2405	2.1313
1267.1	7.88	4.50	3.375	3375.0	1500.0	1267.1	3.375	1.2225	2.2144
1252.0	7.88	4.50	3.377	3375.0	1500.0	1252.0	3.377	1.2089	2.2764
1231.7	7.90	4.51	3.379	1125.0	500.0	1231.7	3.379	1.1906	2.3586
1207.1	7.91	4.51	3.382	1125.0	500.0	1207.1	3.382	1.1685	2.4567
1187.1	7.92	4.52	3.384	1125.0	500.0	1187.1	3.384	1.1505	2.5352
1167.1	7.94	4.53	3.386	1125.0	500.0	1167.1	3.386	1.1325	2.6125
1147.1	7.95	4.53	3.388	1125.0	500.0	1147.1	3.388	1.1145	2.6886
1127.1	7.96	4.54	3.391	1125.0	500.0	1127.1	3.391	1.0965	2.7635
1107.1	7.97	4.54	3.393	1125.0	500.0	1107.1	3.393	1.0786	2.8373
1087.1	7.98	4.54	3.395	1125.0	500.0	1087.1	3.395	1.0606	2.9099
1067.1	7.99	4.55	3.397	1125.0	500.0	1067.1	3.397	1.0427	2.9813
1047.1	8.00	4.55	3.398	1125.0	500.0	1047.1	3.398	1.0249	3.0515
1027.1	8.01	4.56	3.400	1125.0	500.0	1027.1	3.400	1.0070	3.1206
1002.0	8.02	4.56	3.403	1125.0	500.0	1002.0	3.403	0.9847	3.2056
987.1	8.03	4.57	3.404	1125.0	500.0	987.1	3.404	0.9715	3.2552
961.7	8.04	4.57	3.406	675.0	300.0	961.7	3.406	0.9490	3.3383
947.1	8.05	4.57	3.408	675.0	300.0	947.1	3.408	0.9361	3.3852
927.1	8.06	4.58	3.409	675.0	300.0	927.1	3.409	0.9185	3.4484
907.1	8.07	4.58	3.411	675.0	300.0	907.1	3.411	0.9010	3.5104
887.1	8.08	4.58	3.413	675.0	300.0	887.1	3.413	0.8835	3.5713
867.1	8.08	4.59	3.414	675.0	300.0	867.1	3.414	0.8662	3.6310
847.1	8.09	4.59	3.416	675.0	300.0	847.1	3.416	0.8489	3.6896
827.1	8.10	4.59	3.417	675.0	300.0	827.1	3.417	0.8318	3.7470
807.1	8.11	4.60	3.419	675.0	300.0	807.1	3.419	0.8147	3.8033
787.1	8.12	4.60	3.420	675.0	300.0	787.1	3.420	0.7978	3.8584
767.1	8.12	4.60	3.421	675.0	300.0	767.1	3.421	0.7811	3.9124
747.1	8.13	4.61	3.423	675.0	300.0	747.1	3.423	0.7645	3.9653
727.1	8.14	4.61	3.424	675.0	300.0	727.1	3.424	0.7481	4.0171
707.1	8.14	4.61	3.425	675.0	300.0	707.1	3.425	0.7320	4.0678
687.1	8.15	4.61	3.427	675.0	300.0	687.1	3.427	0.7160	4.1174
667.1	8.16	4.62	3.428	675.0	300.0	667.1	3.428	0.7004	4.1660
647.1	8.16	4.62	3.429	675.0	300.0	647.1	3.429	0.6850	4.2135
627.1	8.17	4.62	3.430	675.0	300.0	627.1	3.430	0.6700	4.2599
607.1	8.18	4.62	3.431	675.0	300.0	607.1	3.431	0.6554	4.3054
587.1	8.18	4.62	3.433	675.0	300.0	587.1	3.433	0.6413	4.3499
567.1	8.19	4.63	3.434	675.0	300.0	567.1	3.434	0.6277	4.3935
547.1	8.19	4.63	3.435	675.0	300.0	547.1	3.435	0.6147	4.4361
527.1	8.20	4.63	3.436	675.0	300.0	527.1	3.436	0.6024	4.4780
507.1	8.20	4.63	3.437	675.0	300.0	507.1	3.437	0.5909	4.5190
487.1	8.21	4.63	3.438	675.0	300.0	487.1	3.438	0.5804	4.5592
467.1	8.21	4.63	3.438	675.0	300.0	467.1	3.438	0.5710	4.5988
447.1	8.22	4.63	3.439	675.0	300.0	447.1	3.439	0.5629	4.6378
427.1	8.22	4.64	3.440	675.0	300.0	427.1	3.440	0.5564	4.6763
407.1	8.23	4.64	3.441	675.0	300.0	407.1	3.441	0.5518	4.7144
387.1	8.23	4.64	3.442	675.0	300.0	387.1	3.442	0.5495	4.7523
380.0	8.23	4.64	3.442	675.0	300.0	380.0	3.442	0.5494	4.7657
380.0	?	0.00?	5.171	10000.0	10000.0	380.0	5.171	0.5494	4.7657
0.0	?	?	5.171	10000.0	10000.0	0.0	5.171	0.0000	5.3055

Fig. 19. VPREMOON seismological (a) and geodesic models (b). On the left (a), P and S wave velocities (in km/s) and density (in kg/cm³) are plotted as a function of radius (in km) for the seismological model. The error bars are indicated for each parameters by dot-dashed lines. On the right (b), pressure (in GPa), gravity (in m/s²) and density (in kg/cm³) are plotted as a function of radius (in km) for the geodesic model.

(see Table 4 of the original paper), and also not used for core reflected phase detection.

A mistake was detected in the computation of the pressure inside the Moon from density and gravity models (M. Wieczoreck, personal communication). This error does not modify the rest of the results, but correct values for Table 6 and Fig. 19 are reproduced below.

We thank the editors for the opportunity to make this correction.

Reference

Gagnepain-Beyneix, J., Lognonné, P., Chenet, H., Lombardi, D., Spohn, T., 2006. A seismic model of the lunar mantle and constraints on temperature and mineralogy. Phys. Earth Planet. Inter. 159, 140–166.