

**Supporting Information of
“A Bayesian Method for Real-time Earthquake Location
Using Multi-Parameter Data”**

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Date	Time	Lat.	Lon.	Depth (Km)	M	# Stat. A	# Stat. B	# Stat. C
20160824	01:36:32	42.698	13.233	8.1	6.0	38	15	10
20160824	01:56:00	42.614	13.275	4.8	4.4	15	8	5
20160824	02:33:29	42.792	13.151	8.0	5.4	36	16	9
20160824	03:40:11	42.617	13.245	10.6	4.2	17	11	4
20160824	04:06:50	42.769	13.125	7.6	4.3	20	14	/
20160824	17:46:09	42.663	13.222	10.0	4.4	17	10	5
20160825	03:17:16	42.753	13.208	9.5	4.5	16	10	5
20160825	12:36:05	42.596	13.290	10.0	4.3	20	11	/
20160826	04:28:25	42.600	13.290	10.9	4.8	19	10	5
20160828	15:55:35	42.820	13.238	8.7	4.4	17	10	/
20161026	17:10:36	42.880	13.127	8.7	5.4	57	23	14
20161026	19:18:05	42.909	13.129	7.5	5.9	55	21	13
20161026	21:42:01	42.861	13.128	9.5	4.6	27	13	7
20161027	03:50:24	42.986	13.127	8.9	4.4	19	10	/
20161027	08:21:45	42.873	13.100	9.3	4.4	24	10	6
20161029	16:24:33	42.814	13.096	11.1	4.2	27	/	7
20161030	06:40:17	42.832	13.111	9.2	6.5	63	25	15
20161030	07:13:05	42.698	13.235	10.8	4.5	26	10	/
20161030	13:34:54	42.803	13.165	9.2	4.5	20	12	5
20161031	03:27:40	42.766	13.085	10.6	4.2	28	/	7
20161031	07:05:44	42.841	13.129	10.0	4.2	25	13	5
20161101	07:56:39	43.000	13.158	9.9	4.7	34	13	8
20161103	00:35:01	43.029	13.049	8.4	4.8	38	/	9
20170118	09:25:40	42.547	13.262	9.2	5.1	46	20	13
20170118	10:14:09	42.529	13.282	9.1	5.5	48	20	13
20170118	10:25:23	42.494	13.311	8.9	5.4	45	20	12
20170118	13:33:36	42.477	13.281	10.0	5.0	49	20	13

Table S1. Table that contains the detailed information about the earthquakes of the Central Italy sequence used in the different station/source configurations. The event locations and magnitudes are taken from the INGV bulletin (<http://terremoti.ingv.it/>). The last three columns refer to the number of stations that recorded the event in each simulated configuration A, B and C. The “/” symbol indicates that the event was not used in the configuration.

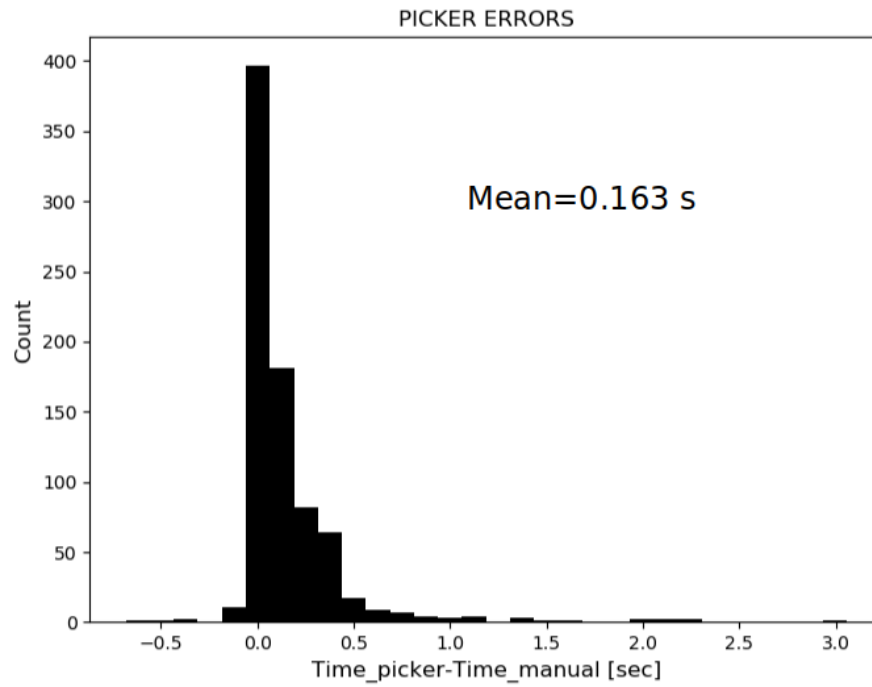


Figure S1. Histograms of the distribution of the difference between the automatic and the manual P picks.

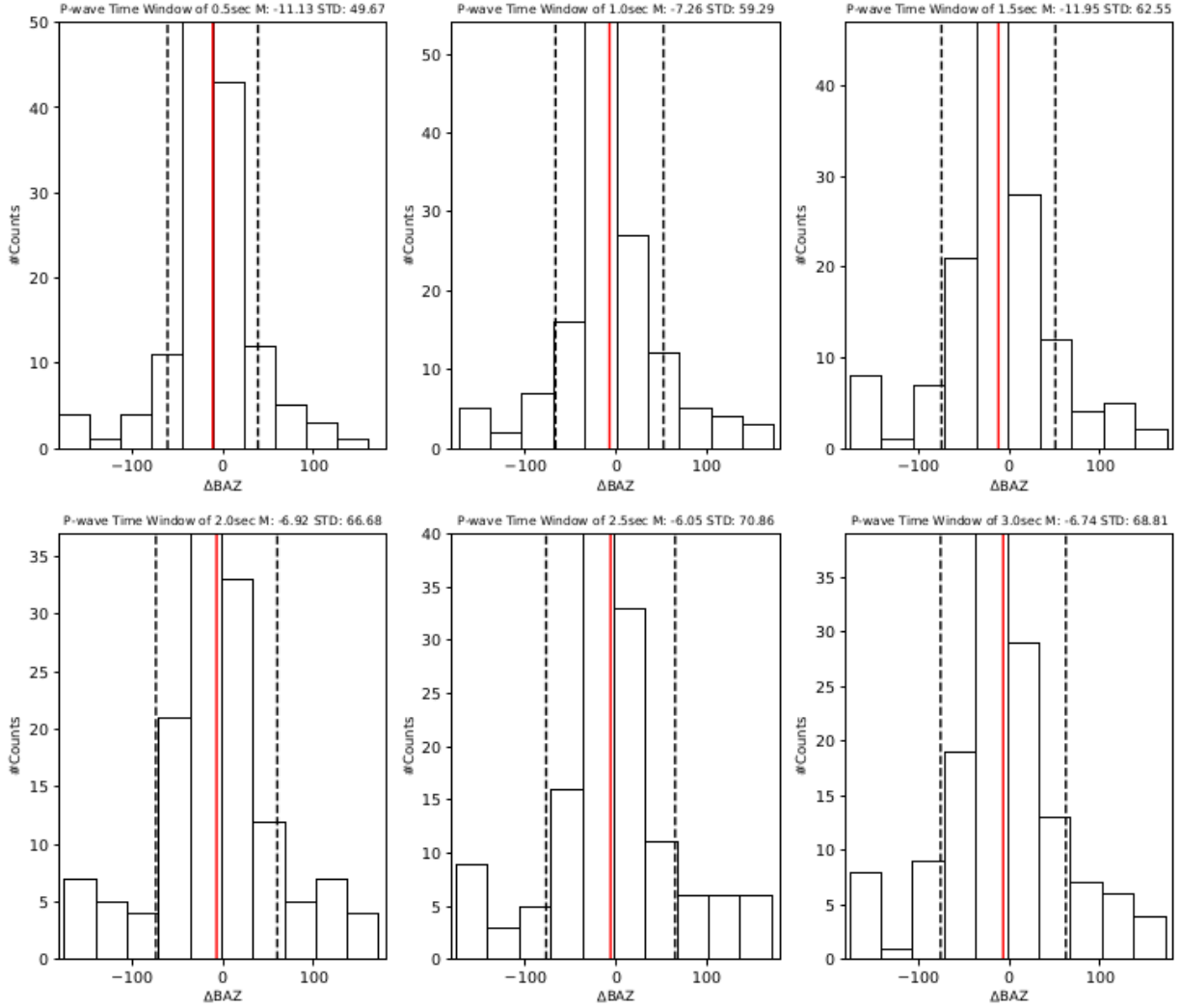


Figure S2. Histograms of the distribution of the difference between the BAZazimuth calculated for different window length between 0.5 s and 3 s, and the reference one (obtained from the reference INGV location). In each panel were shown the mean value (red vertical line) and the standard deviation of the distribution (dashed black vertical lines).

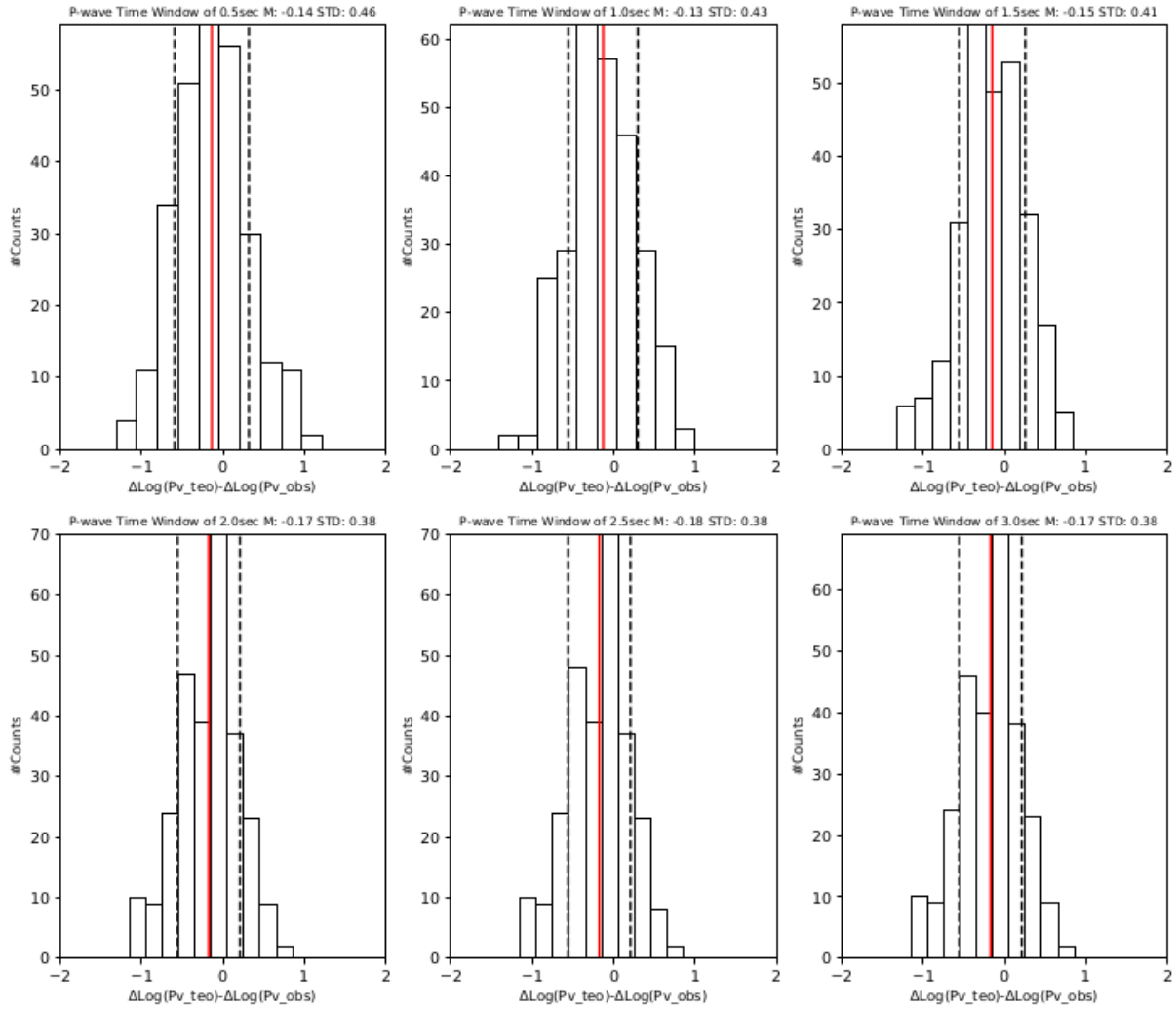


Figure S3. Histograms of the distribution of the difference between the differential P-wave amplitude ratio calculated for different window length between 0.5 s and 3 s, and the reference one (obtained from the reference INGV location). In each panel were shown the mean value (red vertical line) and the standard deviation of the distribution (dashed black vertical lines).

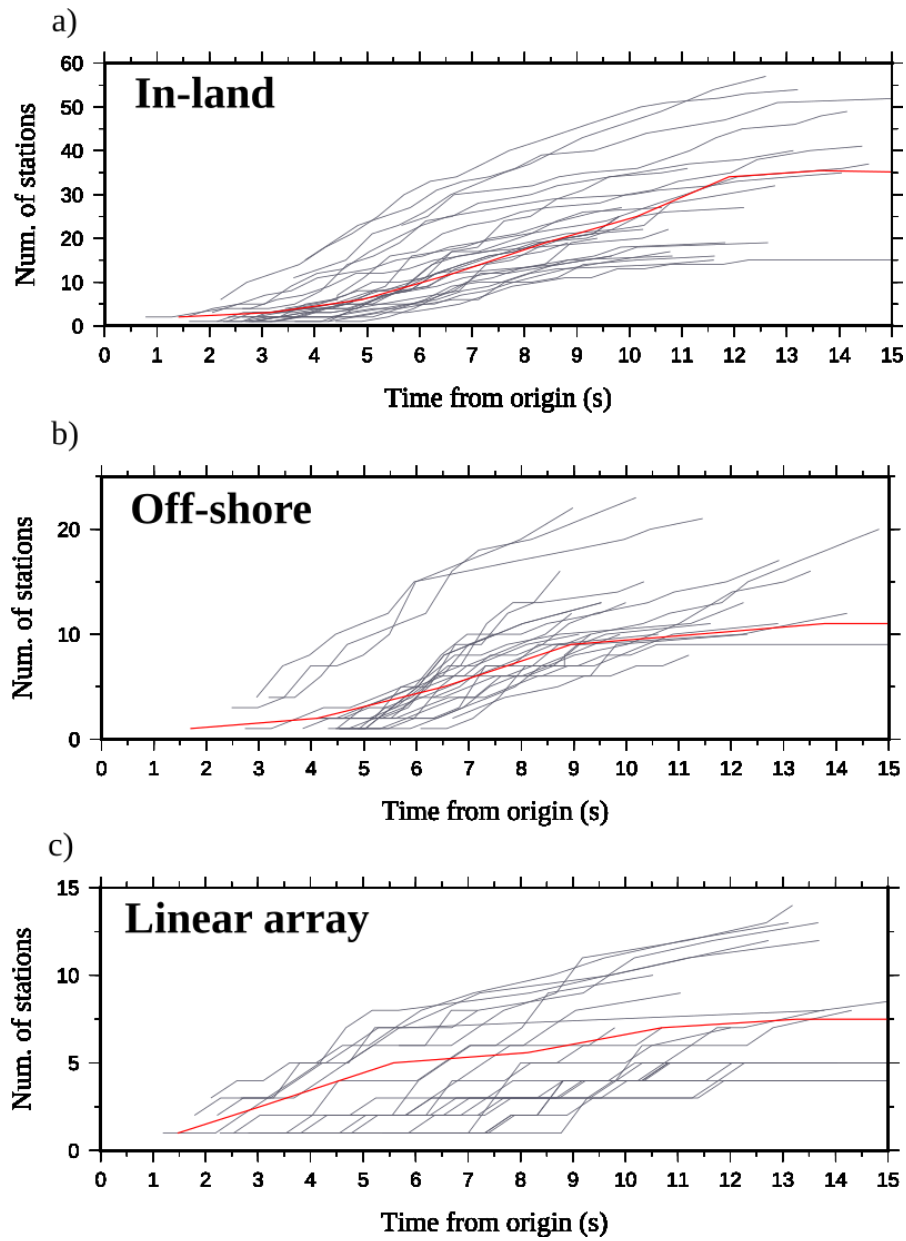


Figure S4. Temporal evolution of station number from event origin time, for the different simulated configurations: In-land (a); Off-shore (b) and Linear array (c) . The red lines represent the median curves.