

AlpArray data quality report 2016 & 2017

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For Petr Kolinsky's surface wave analysis we downloaded waveforms for 35 earthquakes in 2016 and 2017 from EIDA ($M > 7$ worldwide, $M > 6$ Atlantic/Europe region). We requested data for all stations within the AlpArray boundaries and beyond. We systematically checked all data for data completeness, gaps and overlaps within a 1–2 hour time window after the origin time. The table below summarizes our findings for all of the 35 earthquakes and all permanent and temporary stations.

The automatic quality checks were the following:

- Data existing?
- How many traces?
- How many gaps & overlaps?
- How many components are available?

The results are color-coded in the table below. Here is the legend to interpret the table:

useable records:

- +** ... 1 trace for each component (no gaps, no overlaps)
- Gm** ... < 20 traces/comp., max. length of the merged gaps: 3 sec.
- Om** ... < 20 traces/comp., merged overlaps

dismissed records:

- #T** ... > 20 traces/comp.
- IG** ... gaps longer than 3 sec.
- mC** ... 1 or 2 components missing
- sR** ... record shorter than required time window (1,5 – 2,0 hr)
- nD** ... no data available
- ... station not installed

Please note:

- Results are only representative for the 1–2 hour time window after each earthquake. We did not evaluate 24h data.
- The color coding is solely based on our subjective judgement of how many traces/gaps/overlaps are acceptable.
- Some stations might be included in the table although they are no longer existing or not public. Some networks included are not part of AlpArray.
- Some stations might show „no data“ although in reality they *were not installed*. This indicates that closing dates were not properly included in the metadata on EIDA.
- Data for the Czech Z3 stations (A070A–A 090A) was kindly provided via FTP. For these stations our results do not reflect the data availability on EIDA.
- The records for three earthquakes included in the table span midnight. This might result in false reports for gaps or overlaps for the following three dates: 2017-05-10, 2017-06-02, 2017-07-17
- This report does not include checks for the following criteria:
 - Noise
 - Timing errors
 - Anomalous amplitudes
 - Spikes
 - Offsets
 - ...
- Even a station marked as all green may have one or more of the issues listed above. Green only indicates that there are no/few gaps or overlaps and that all three components are available.

