

AlpArray data quality report 2016 & 2017

compiled by University of Vienna group (Gidera Gröschl, Petr Kolinsky, Florian Fuchs)

as presented @ EGU 2018 (last updated on April 19, 2018)

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)
	... < 20 traces/comp., max. length of the merged gaps: 3 sec.
	... < 20 traces/comp., merged overlaps
dismissed records:	
	... > 20 traces/comp.
	... gaps longer than 3 sec.
	... 1 or 2 components missing
	... record shorter than required time window (1,5 – 2,0 hr)
	... 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.

GU	EQUI	nD	#T	#T	IG	+	#T	IG	IG	+	+	IG	+	+	+	+	+	+	+	+	+	+	IG	+	+	+	Om	+	+	+	+	
GU	GBOSS	#T	#T	nD	nD	#T	#T	#T	#T	nD																						
GU	GORR	#T	#T	#T	Gm	IG	#T	#T	+	+	IG	+	+	+	+	+	+	+	+	+	+	+	IG	+	+	+	Om	+	+	+	+	
GU	GRAM	#T	#T	#T	Om	IG	+	IG	+	+	IG	+	+	IG	+	+	+	+	+	+	+	+	IG	+	+	+	Om	+	+	+	+	
GU	GSCL	nD	nD	#T	#T	IG	IG	IG	+	+	IG	+	+	+	+	+	+	+	+	+	+	+	IG	+	+	+	IG	+	+	+	+	
GU	LSD	#T	#T	#T	IG	IG	#T	#T	Om	IG	#T	#T	#T	IG	IG	IG	#T	nD	Gm	Gm	#T	#T	nD	Gm								
GU	MAIM	#T	IG	#T	#T	IG	IG	+	+	+	IG	+	+	+	+	IG	+	+	+	IG	Om	nD	+	+	+							
GU	MGRO	#T	#T	#T	#T	IG	IG	#T	#T	#T	#T	#T	IG	IG	IG	+	+	+	+	+	+	+	IG	+	+	+	IG	+	nD	nD	#T	nD
GU	PCP	#T	#T	#T	IG	+	Gm	IG	+	+	#T	+	+	IG	+	+	nD	+	+	+	+	+	IG	+	+	+	Om	+	+	+	+	+
GU	POPM	nD																														
GU	PZZ	#T	#T	#T	+	#T	#T	#T	#T	IG	+	+	IG	+	+	+	+	+	+	+	+	IG	+	+	+	IG	+	+	+	+	+	
GU	REMY	#T	#T	#T	#T	#T	IG	nD	IG																							
GU	RNCA	nD																														
GU	RORO	nD																														
GU	ROTM	#T	#T	#T	#T	#T	#T	Om	+	Om	Om	Om	#T	IG	+	+	IG	nD	+	+	+	IG	+	+	+	IG	Om	+	Gm	+	+	
GU	RRL	#T																														
GU	RSP	Gm	+	nD																												
GU	SARM	nD																														
GU	SATI	#T	#T	#T	IG	IG	#T	IG	IG	#T	IG	Gm	IG	IG	IG	+	+	IG	+	+	+	IG	+	+	+	IG	Om	+	#T	Gm	+	#T
GU	STV	nD	nD	nD	IG	#T	IG																									
GU	TRAV	#T																														
HL	JAN	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
HL	KEK	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
HL	KZN	+	+	+	+	+	+	+	+	+	+	+	+	+	+	nD	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
HL	NEO	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
HL	NVR	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
HL	PENT	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	IG	+	+	+	+	+	+	+	+	+	+	+	+	+	+
HL	PLG	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	nD	nD	
HL	THL	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
HT	AGG	IG	IG	IG	nD	+	IG	IG	IG	IG	nD																					
HT	FNA	IG	IG	IG	nD	+	IG	IG	IG	IG	nD																					
HT	GRG	IG	IG	IG	nD	+	#T	#T	#T	#T	IG	IG	IG	nD																		
HT	HORT	IG	IG	IG	nD	+	IG																									
HT	KNT	IG	IG	IG	nD	+	nD	nD	nD	nD	IG																					
HT	LIT	IG	IG	IG	nD	+	#T	#T	#T	#T	IG																					
HT	PAIG	IG	IG	IG	nD	+	IG																									
HT	SOH	IG	IG	IG	nD	+	IG																									
HT	SRS	IG	IG	IG	nD	+	IG																									
HT	THE	#T	IG	IG	nD	+	IG																									
HT	XOR	IG	IG	IG	nD	+	IG																									
HU	AMBH	+	+	+	+	+	+	+	+	nD																						
HU	BEHE	+	+	+	+	nD	+	IG	IG	IG	nD																					
HU	BZSH	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	nD		
HU	BUD	Gm	Gm	Gm	Gm	+	Gm																									
HU	CSKK	+	+	+	+	+	nD	+	IG																							
HU	EGYH	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
HU	KOVH	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	nD	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
HU	LTBV	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
HU	MORH	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
HU	MPLH	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
HU	PSZ	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
HU	SOP	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
HU	TIH	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
HU	TRPA	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
HU	GRFO	nD																														
IV	ACER	+	+	IG	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
IV	AMUR	Gm	+	+	IG	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
IV	AOI	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
IV	APEC	+	+	+	+	nD	+	+	+	+	+	+	+	+	+	+	+	IG														
IV	ARCI	Gm	+	+	IG	+	+	Gm	Gm	+	+	+	+	+	+	+	+	IG														
IV	ARVD	+	+	IG	+	+	+	+	+	+	+	+	+	+	+	+	+	IG														
IV	ASQV	Gm	+	+	Gm	+	+	+	+	+	+	+	+	+	+	+	+	IG														
IV	CASF	IG																														
IV	CAFE	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	IG														
IV	CAFI	+	+	nD	+	+	+	+	+																							

IV	VARE	+	+	+	+	+	+	+	nD	IG	+	+	+	IG	+	IG	IG	+	IG	+	+	+	+	nD	IG	+	+	IG	
IV	VARP	+	+	+	+	+	nD	nD	sR	+	+	IG	+	+	+	nD	+	+	+	+	nD	+	+	nD	nD	nD	nD	nD	nD
IV	VBNK	+	+	+	+	+	+	+	+	IG	+	+	+	IG	+	+	IG	+	+	+	+	+	+	+	+	+	+	+	
IV	VCRE	+	sR	IG	nD	nD	+	IG	+	+	+	nD	+	+	+	+	+	+	nD										
IV	VITU	+	+	+	+	+	+	+	IG	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
IV	VIVA	+	+	+	+	+	Gm	Gm	Gm	+	+	Gm	+	Gm	Gm	Gm	+	Gm	Gm	+	+	+	+	+	IG	Gm	Gm		
IV	VTIR	+	+	+	+	+	IG	IG	IG	+	+	+	+	+	+	nD	IG	nD											
IV	VULT	+	+	+	+	Gm	+	+	Gm	nD	nD	+	+	+	IG														
IV	VVDG	+	+	+	+	+	+	+	+	IG	+	+	+	IG	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
IV	VVLD	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	IG	+	+	
IV	ZCCA	+	+	sR	+	+	+	+	+	+	+	+	IG	+	+	+	IG												
IV	ZONE	+	+	+	+	Gm	IG	IG	Gm	+	+	Gm	Gm	+	+	Gm	Gm	+	IG	IG	IG	Gm	Gm	IG	Gm	Gm	Gm		
IX	COL3	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	
IX	LIO3	nD	nD	nD	Gm	+	Gm	+	+	Gm	+	IG	+	+	Gm	Gm	Gm	+	+	nD	Gm								
IX	PGN3	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	
IX	RDM3	nD	nD	nD	+	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	
IX	RSF3	nD	nD	nD	+	+	+	+	+	IG	IG	IG	+	+	+	+	mC	nD	+	nD	IG	+	+	+	+	+	+	+	+
IX	SSB3	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	
LC	CANF	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
ME	KOME	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
MN	AQU	+	+	+	+	+	+	+	+	+	+	+	nD	+	+	+	nD	+	Om	+	+	+	+	+	+	+	+	+	
MN	BLY	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
MN	BNI	+	+	+	+	+	+	+	+	+	+	+	IG	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
MN	CUC	+	IG	#T	#T	IG	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
MN	DIVS	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
MN	PDG	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
MN	TIP	+	+	+	+	+	+	+	nD	+	+	+	+	+	+	+	nD												
MN	TIR	IG	Gm	Gm	+	+	+	+	Gm	Gm	Gm	+	+	+	+	Gm	Gm	Gm	+	Om	+	+	+	+	+	+	+	+	
MN	TRI	nD	nD	nD	+	+	+	+	nD	+	+	nD	+	nD	IG	Om													
MN	TUE	+	+	+	+	+	+	+	+	+	+	nD																	
MN	VLC	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
MN	VSL	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
MN	VTS	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
MT	AVM	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
MT	AVP	+	+	IG	+	+	IG	IG	IG	+	+	+	+	IG	IG	IG	+	+	+	+	+	+	+	+	+	+	+	+	
MT	AVR	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
NI	AGOR	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	
NI	DST2	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	
NI	PALA	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	
NI	POLC	nD	nD	+	+	+	IG	IG	IG	nD																			
NI	PURA	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	
NI	VINO	nD	nD	nD	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
NL	HGN	nD	nD	nD	+	+	nD	+	+	+	+	+	+	+	+	+	nD	+	+	+	+	+	+	+	+	+	+	+	+
NL	VKB	nD	nD	nD	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
OE	ABTA	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
OE	ARSA	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
OE	BIOA	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
OE	CONA	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
OE	CSNA	+	+	+	+	+	nD	nD	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
OE	DAVA	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
OE	FETA	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
OE	KBA	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	sR	+	+	+	+	+	+	+	+	+	+	+	+
OE	LESA	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
OE	MOA	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
OE	MOTA	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
OE	MYKA	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
OE	OBKA	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
OE	RETA	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
OE	RONA	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
OE	SOKA	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
OE	SQTA	+	+	+	IG	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
OE	VIE	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	
OE	WATA	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
OE	WTTA	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
OT	TARI	+	+	+	+	+	+	+	+	IG	IG	IG	+	+	+	+	IG	+	+	IG	nD	Om	+	+	+	+	IG	IG	
OX	ACOM	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	
OX	AGOR	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	nD	
OX	BAD	nD	nD	nD	nD	nD</td																							

