STATION INFORMATION

Station code: 0679

Model: SARA GEOBOX

Sensor: SARA SS45PACK (integrated 4.5 Hz sensors)

Notes: -

PLACE INFORMATION

Place ID: HVSR 1

Address: MS Porpetto - Castello, SP80

Latitude: 5081737

Longitude: 362267

Coordinate system: WGS84

Elevation: 13 m s.l.m.

Weather: Nuvoloso, assenza di vento

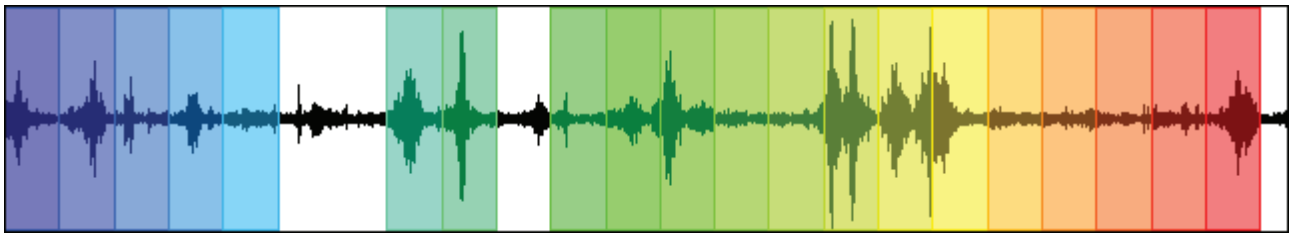
Notes: -

PHOTOGRAPHIC REFERENCES

SIGNAL AND WINDOWING

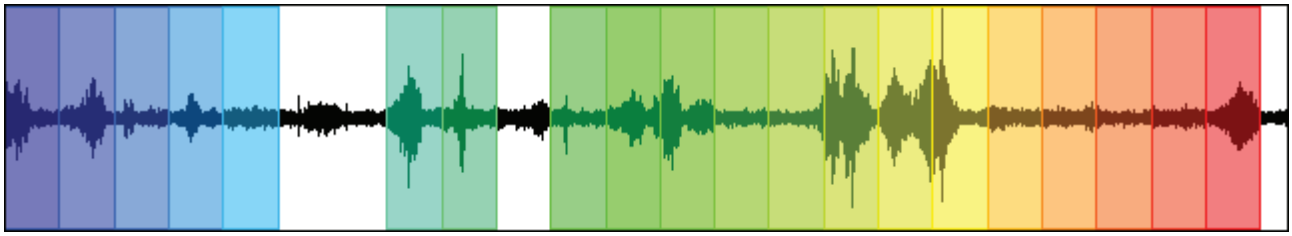
Sampling frequency:	200 Hz
Recording start time:	2017/02/13 10:30:46
Recording length:	19.58 min
Windows count:	20
Average windows length:	50
Signal coverage:	85.11%

25791 Counts **CHANNEL #1 [V]**



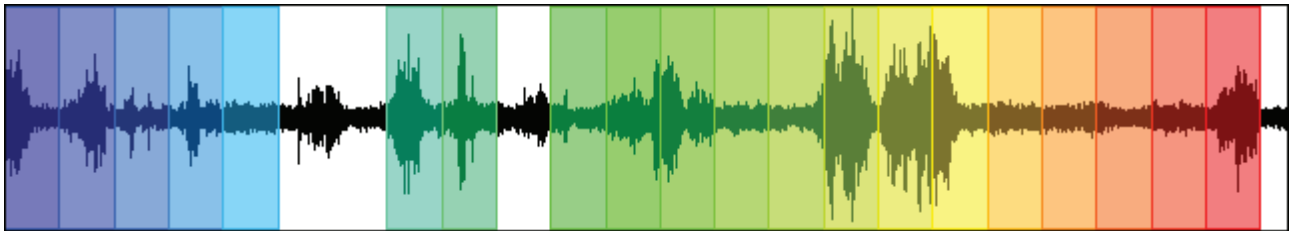
-29093 Counts

36433 Counts **CHANNEL #2 [N]**



-29183 Counts

20860 Counts **CHANNEL #3 [E]**



-19551 Counts

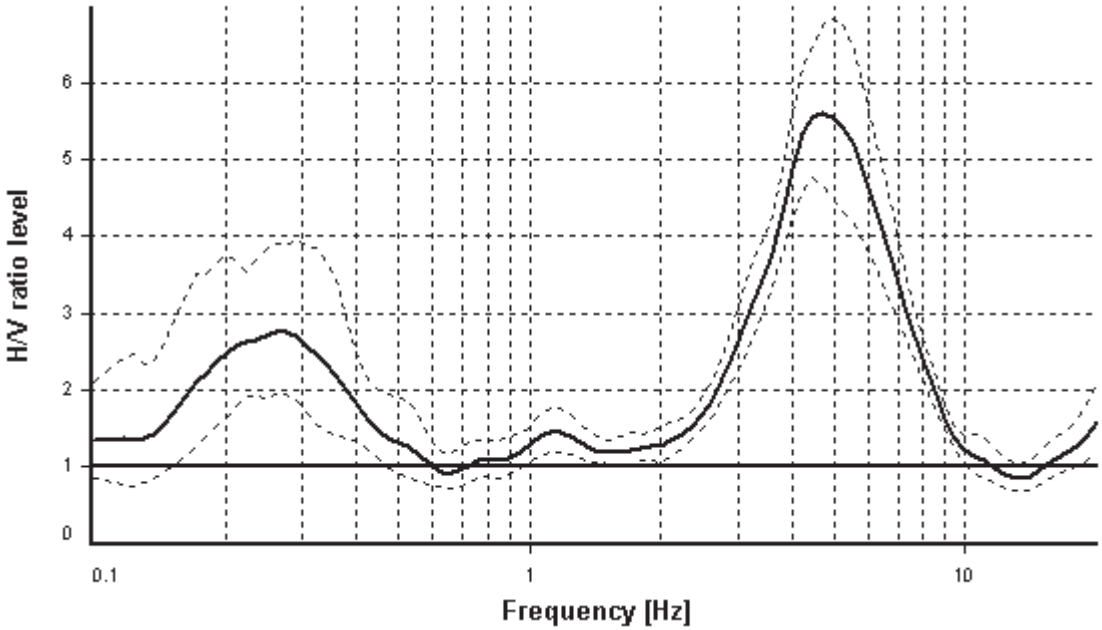
HVSR ANALYSIS

Tapering: Enabled (Bandwidth = 30%)

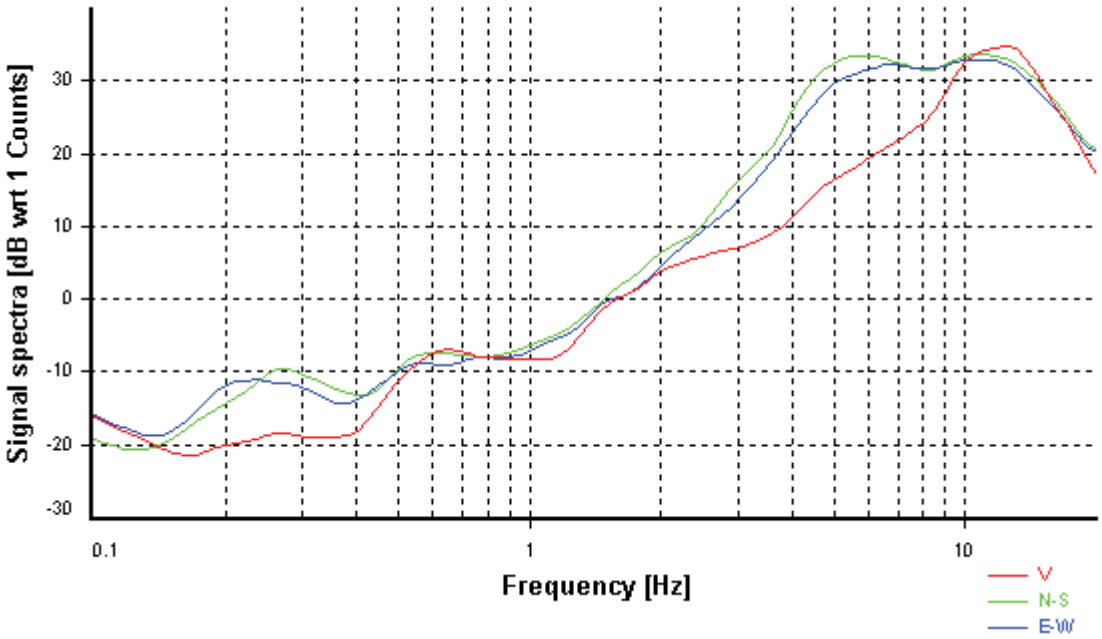
Smoothing: Proportional triangular (Bandwidth coefficient = 15)

Instrumental correction: Disabled

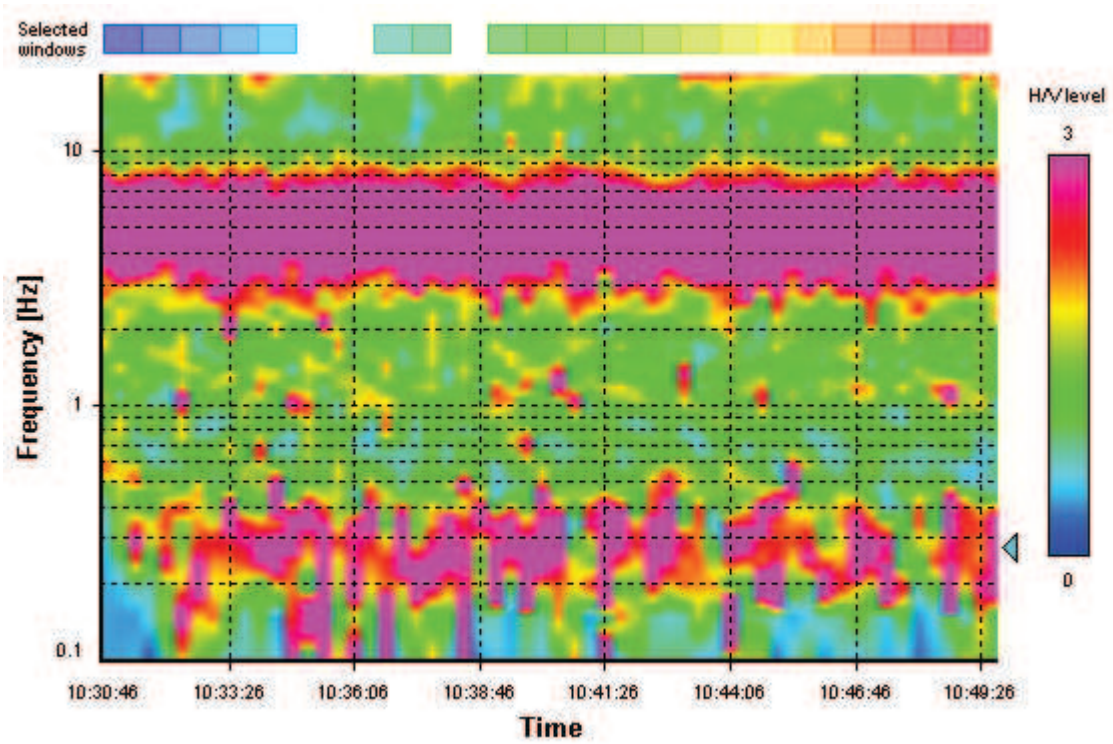
HVSR average



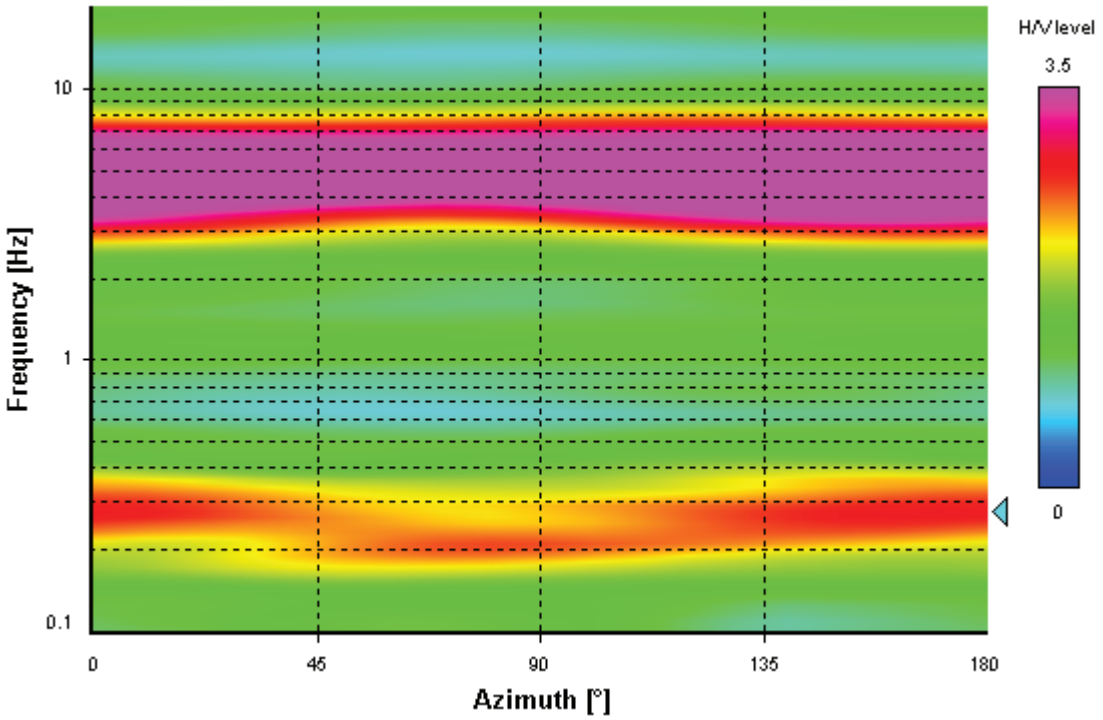
Signal spectra average



HVSR time-frequency analysis (20 seconds windows)



HVSR directional analysis



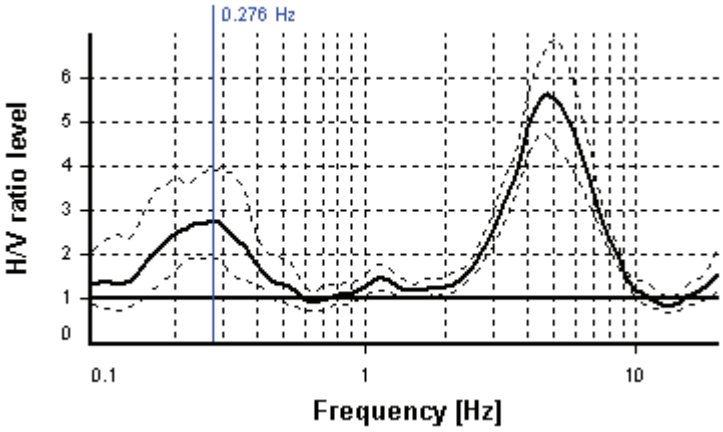
SESAME CRITERIA

Selected f_0 frequency

0.276 Hz

A_0 amplitude = *2.740*

Average f_0 = *0.259 ± 0.049*



HVSR curve reliability criteria		
$f_0 > 10 / L_w$	20 valid windows (length > 36.17 s) out of 20	OK
$n_c(f_0) > 200$	276.45 > 200	OK
$\sigma_A(f) < 3$ for $0.5f_0 < f < 2f_0$	Exceeded 0 times in 25	OK
HVSR peak clarity criteria		
$\exists\ f^-$ in $[f_0/4, f_0] \mid A_{H/V}(f^-) < A_0/2$	0.13068 Hz	OK
$\exists\ f^+$ in $[f_0, 4f_0] \mid A_{H/V}(f^+) < A_0/2$	0.47211 Hz	OK
$A_0 > 2$	2.74 > 2	OK
$f_{peak}[A_{H/V}(f) \pm \sigma_A(f)] = f_0 \pm 5\%$	5.5% > 5%	NO
$\sigma_f < \varepsilon(f_0)$	0.04851 < 0.05529	OK
$\sigma_A(f_0) < \theta(f_0)$	1.41789 < 2.5	OK
Overall criteria fulfillment		OK

STATION INFORMATION

Station code: 0679

Model: SARA GEOBOX

Sensor: SARA SS45PACK (integrated 4.5 Hz sensors)

Notes: -

PLACE INFORMATION

Place ID: HVSR 2

Address: MS Porpetto - Castello, Via Corgnolo

Latitude: 5080954

Longitude: 361557

Coordinate system: WGS84

Elevation: 12 m s.l.m.

Weather: Sereno, assenza di vento

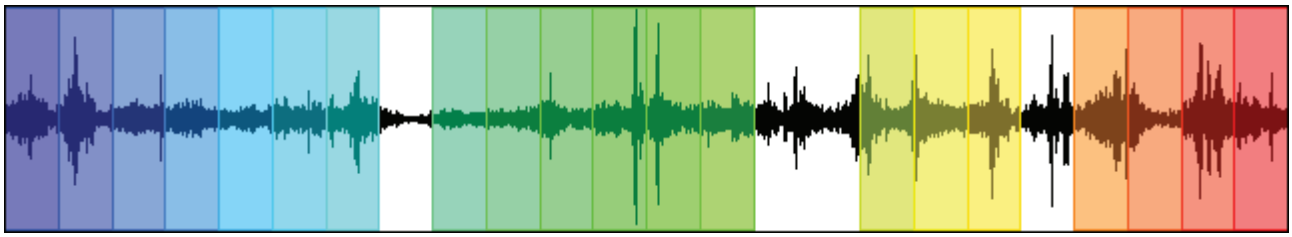
Notes: -

PHOTOGRAPHIC REFERENCES

SIGNAL AND WINDOWING

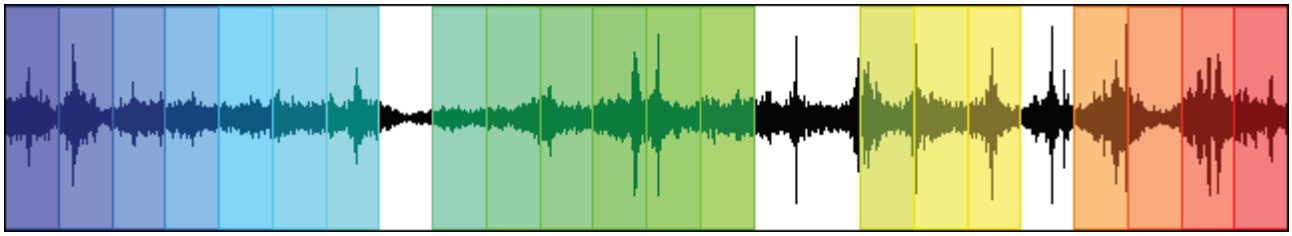
Sampling frequency:	200 Hz
Recording start time:	2017/03/13 08:41:21
Recording length:	20 min
Windows count:	20
Average windows length:	50
Signal coverage:	83.33%

43114 Counts **CHANNEL #1 [V]**



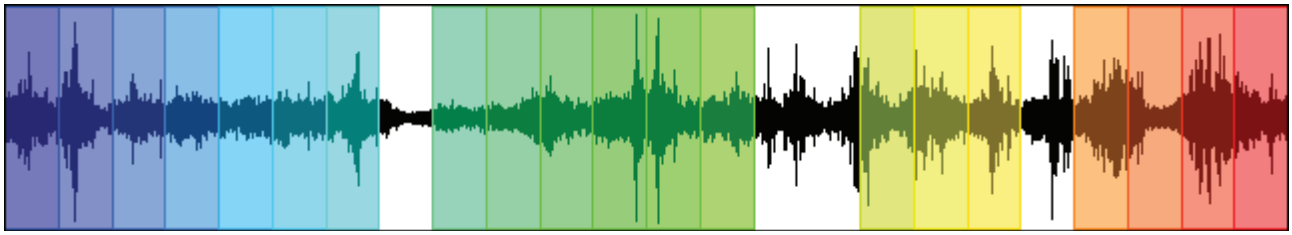
-40677 Counts

60618 Counts **CHANNEL #2 [N]**



-58354 Counts

41421 Counts **CHANNEL #3 [E]**



-41702 Counts

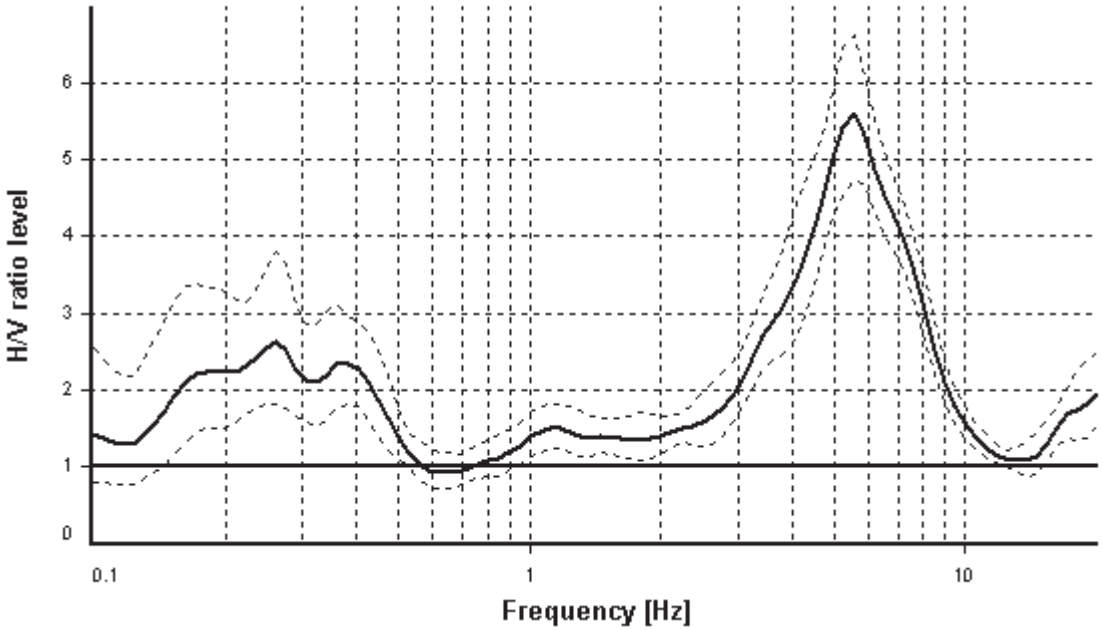
HVSR ANALYSIS

Tapering: Enabled (Bandwidth = 30%)

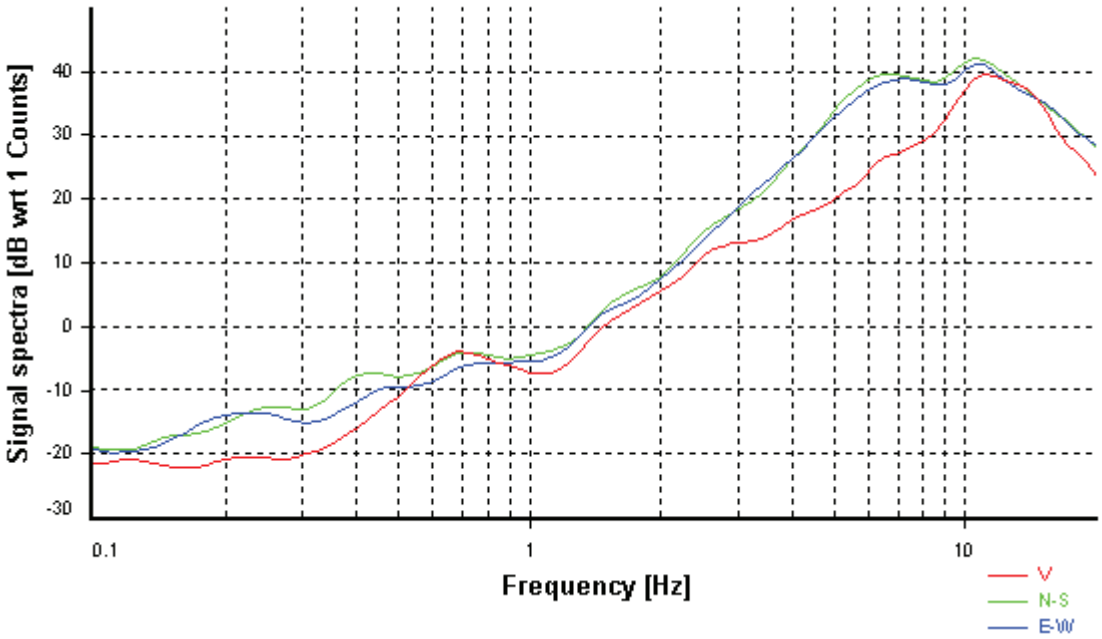
Smoothing: Proportional triangular (Bandwidth coefficient = 15)

Instrumental correction: Disabled

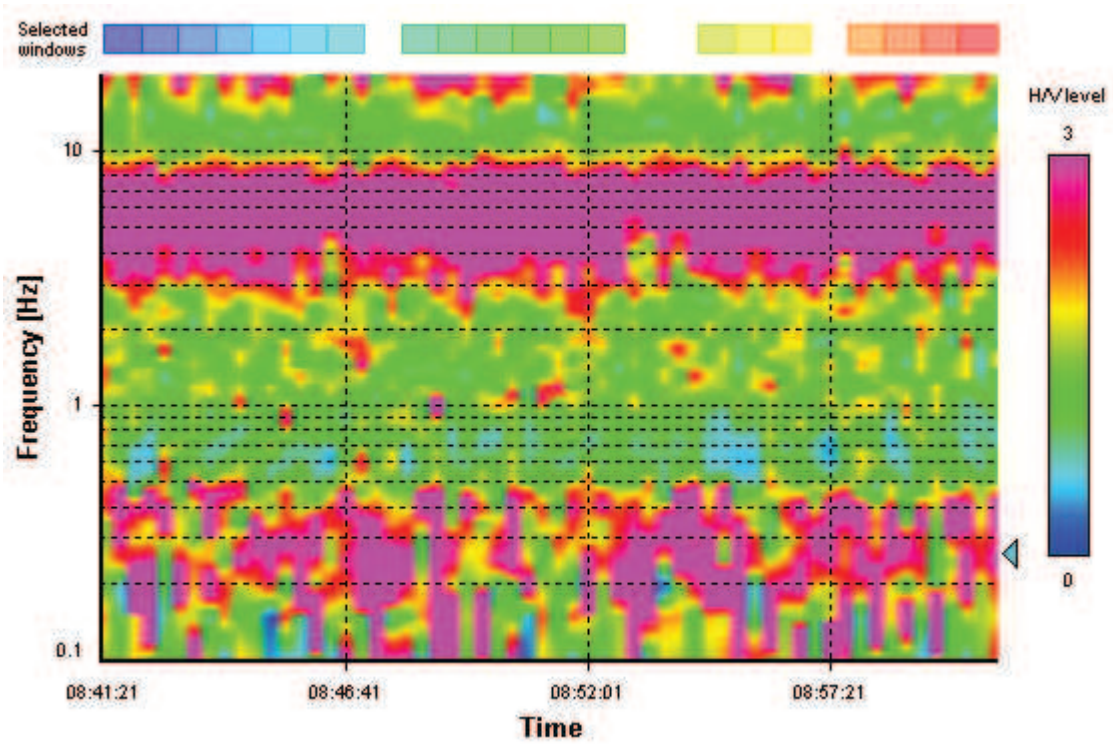
HVSR average



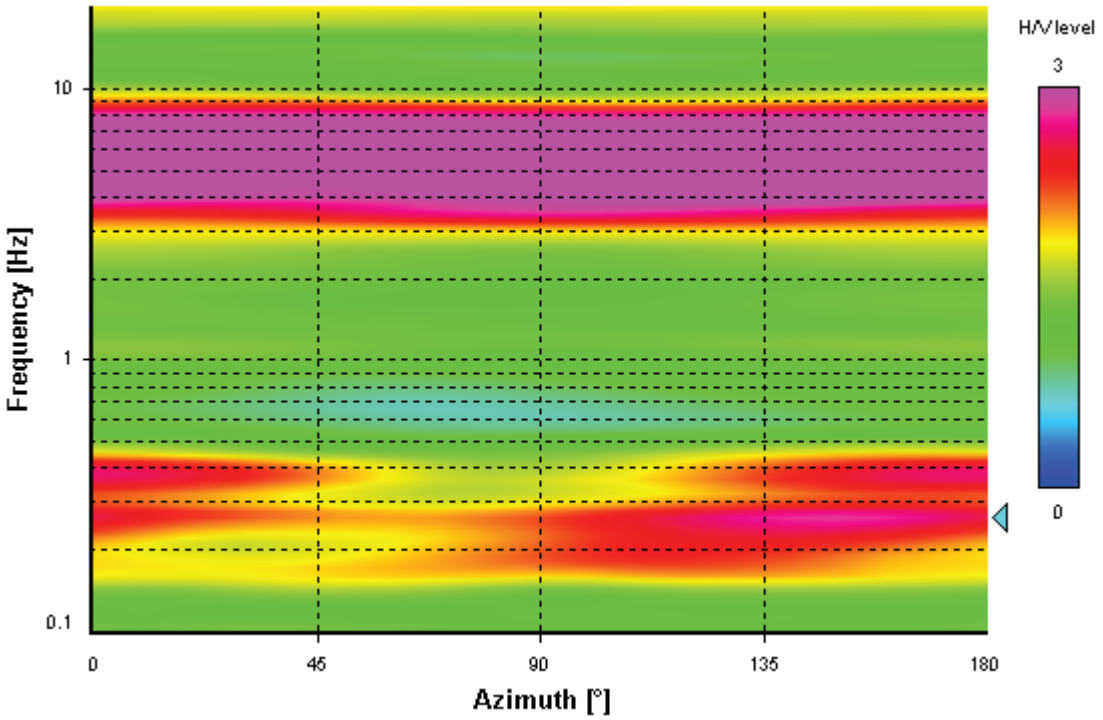
Signal spectra average



HVSR time-frequency analysis (20 seconds windows)



HVSR directional analysis



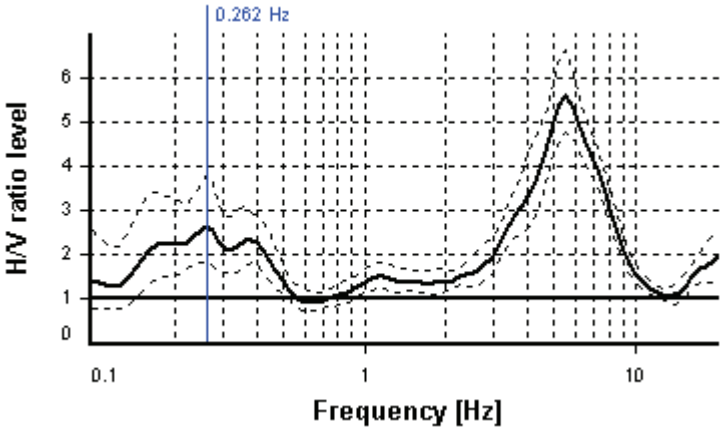
SESAME CRITERIA

Selected f_0 frequency

0.262 Hz

A_0 amplitude = *2.621*

Average f_0 = *0.260 ± 0.065*



HVSR curve reliability criteria		
$f_0 > 10 / L_w$	20 valid windows (length > 38.16 s) out of 20	OK
$n_c(f_0) > 200$	262.04 > 200	OK
$\sigma_A(f) < 3$ for $0.5f_0 < f < 2f_0$	Exceeded 0 times in 25	OK
HVSR peak clarity criteria		
$\exists\ f^-$ in $[f_0/4, f_0] \mid A_{H/V}(f^-) < A_0/2$	0.12387 Hz	OK
$\exists\ f^+$ in $[f_0, 4f_0] \mid A_{H/V}(f^+) < A_0/2$	0.52544 Hz	OK
$A_0 > 2$	2.62 > 2	OK
$f_{peak}[A_{H/V}(f) \pm \sigma_A(f)] = f_0 \pm 5\%$	45.45% > 5%	NO
$\sigma_f < \varepsilon(f_0)$	0.06456 >= 0.05241	NO
$\sigma_A(f_0) < \theta(f_0)$	1.44908 < 2.5	OK
Overall criteria fulfillment		NO

STATION INFORMATION

Station code: 0679

Model: SARA GEOBOX

Sensor: SARA SS45PACK (integrated 4.5 Hz sensors)

Notes: -

PLACE INFORMATION

Place ID: HVSR 3

Address: MS Porpetto - Porpetto,Via Marconi

Latitude: 5079871

Longitude: 361377

Coordinate system: WGS84

Elevation: 10 m s.l.m.

Weather: Nuvoloso, assenza di vento

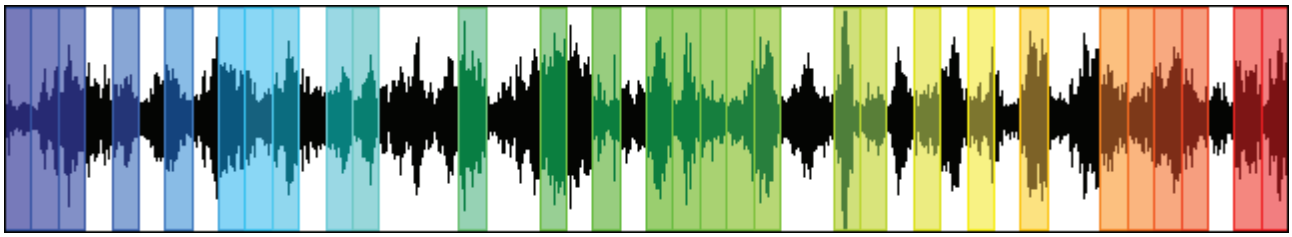
Notes: -

PHOTOGRAPHIC REFERENCES

SIGNAL AND WINDOWING

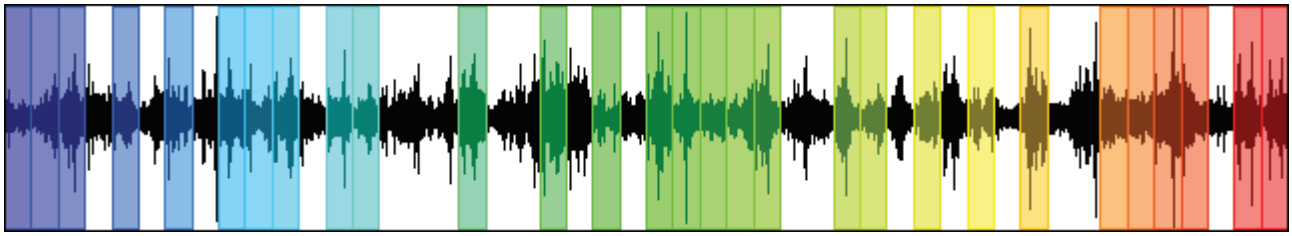
Sampling frequency:	200 Hz
Recording start time:	2017/02/13 09:30:43
Recording length:	40 min
Windows count:	29
Average windows length:	50
Signal coverage:	60.42%

12129 Counts **CHANNEL #1 [V]**



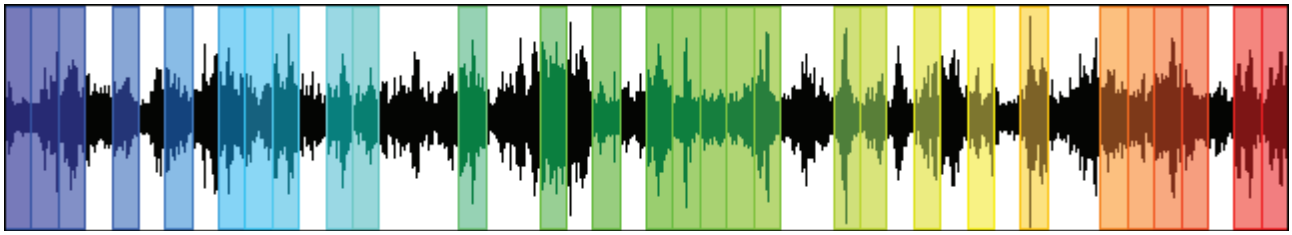
-12490 Counts

23771 Counts **CHANNEL #2 [N]**



-24189 Counts

14740 Counts **CHANNEL #3 [E]**



-16268 Counts

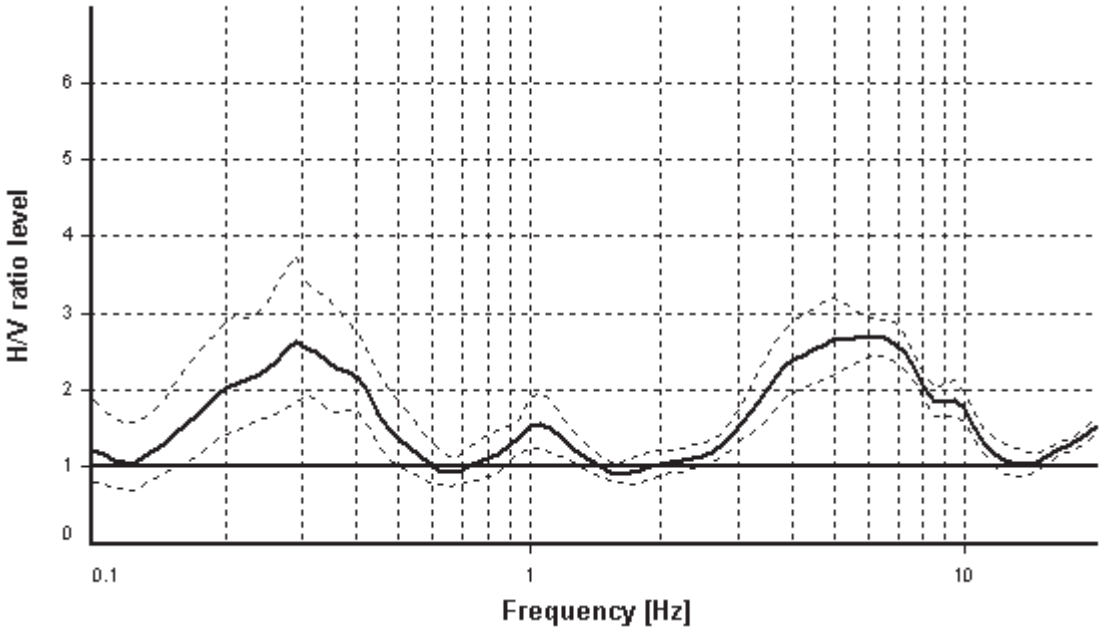
HVSR ANALYSIS

Tapering: Enabled (Bandwidth = 30%)

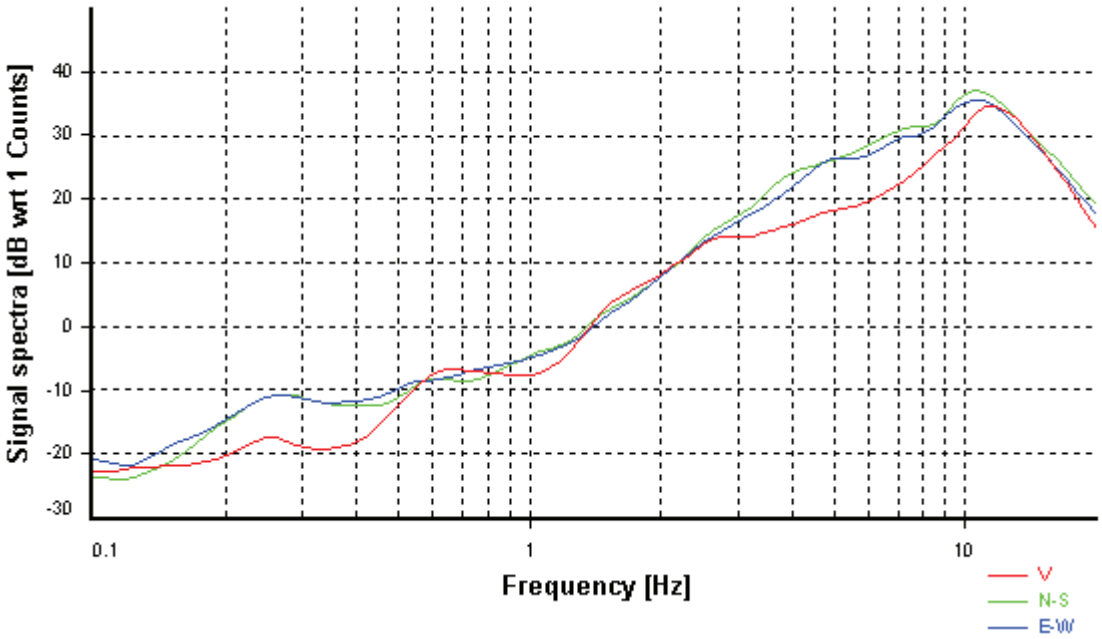
Smoothing: Proportional triangular (Bandwidth coefficient = 15)

Instrumental correction: Disabled

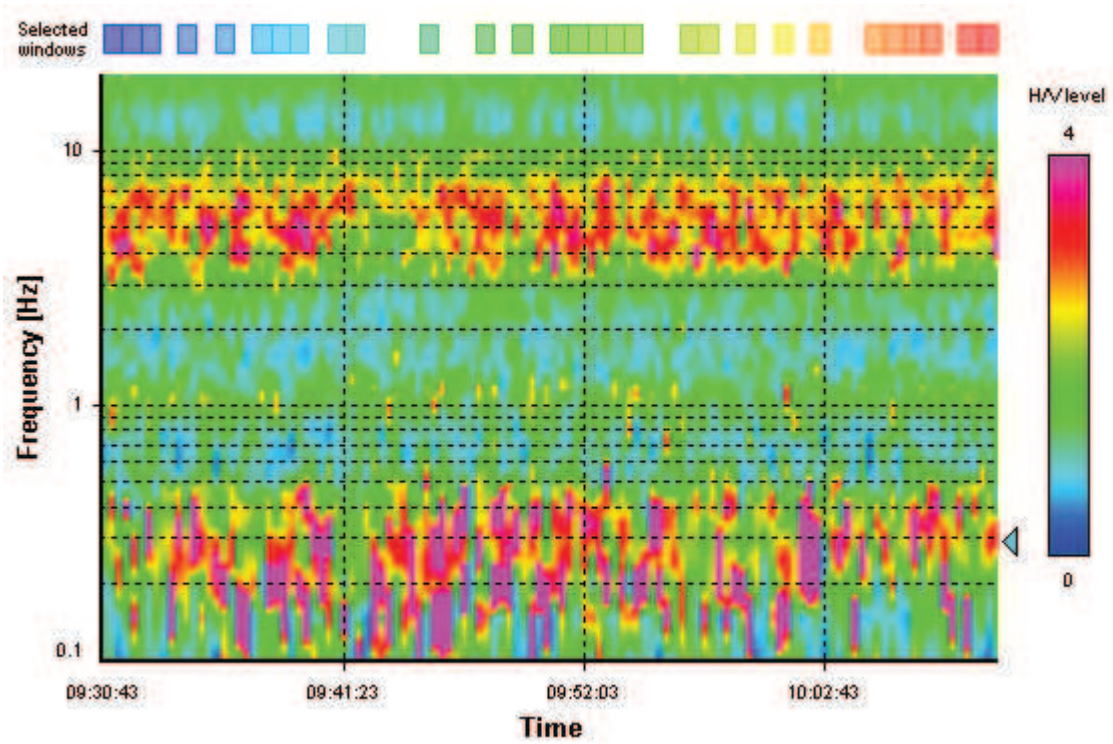
HVSR average



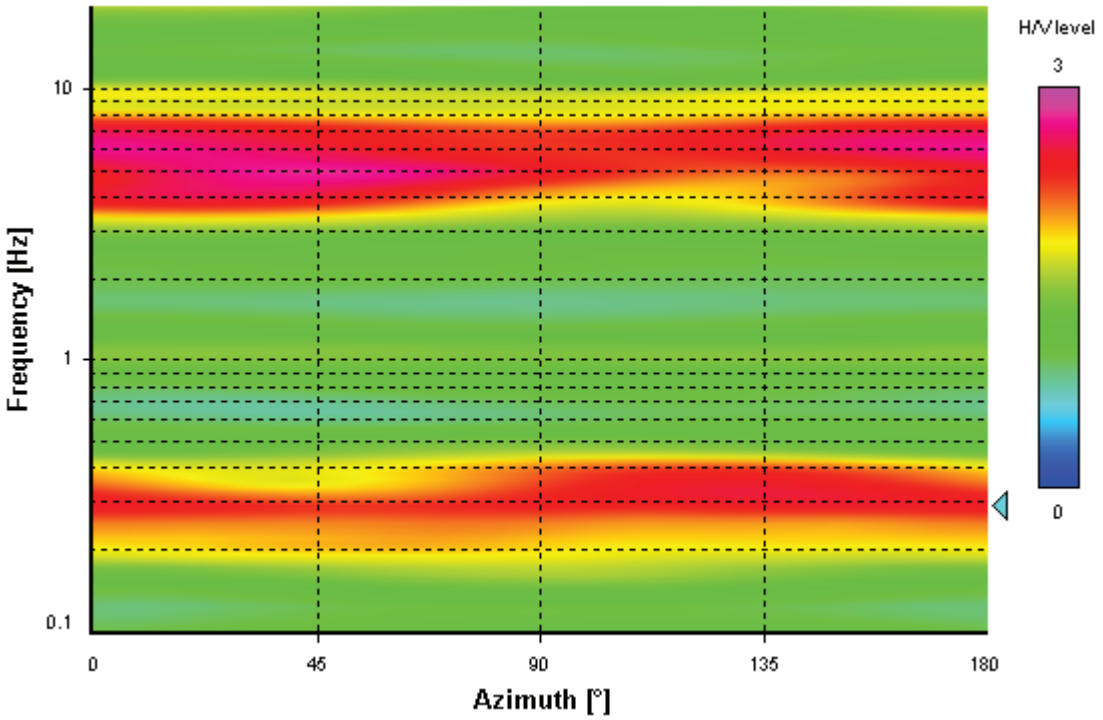
Signal spectra average



HVSR time-frequency analysis (20 seconds windows)



HVSR directional analysis



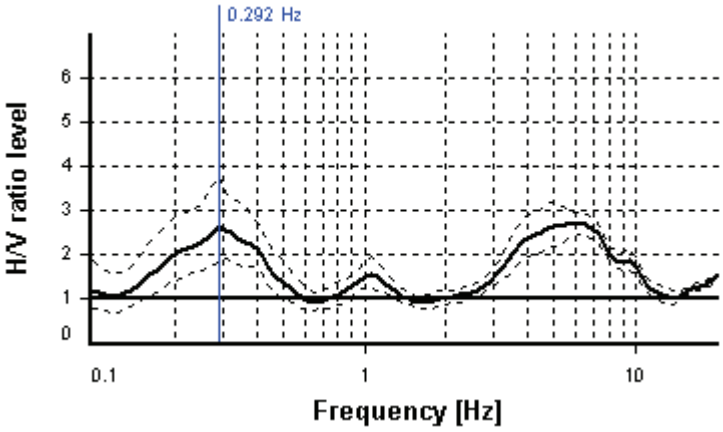
SESAME CRITERIA

Selected f_0 frequency

0.292 Hz

A_0 amplitude = *2.626*

Average f_0 = *0.288 ± 0.055*



HVSR curve reliability criteria		
$f_0 > 10 / L_w$	29 valid windows (length > 34.29 s) out of 29	OK
$n_c(f_0) > 200$	422.89 > 200	OK
$\sigma_A(f) < 3$ for $0.5f_0 < f < 2f_0$	Exceeded 0 times in 25	OK
HVSR peak clarity criteria		
$\exists\ f^-$ in $[f_0/4, f_0] \mid A_{H/V}(f^-) < A_0/2$	0.14545 Hz	OK
$\exists\ f^+$ in $[f_0, 4f_0] \mid A_{H/V}(f^+) < A_0/2$	0.52544 Hz	OK
$A_0 > 2$	2.63 > 2	OK
$f_{peak}[A_{H/V}(f) \pm \sigma_A(f)] = f_0 \pm 5\%$	5.5% > 5%	NO
$\sigma_f < \varepsilon(f_0)$	0.05514 < 0.05833	OK
$\sigma_A(f_0) < \theta(f_0)$	1.42825 < 2.5	OK
Overall criteria fulfillment		OK

STATION INFORMATION

Station code: 0679

Model: SARA GEOBOX

Sensor: SARA SS45PACK (integrated 4.5 Hz sensors)

Notes: -

PLACE INFORMATION

Place ID: HVSR 4

Address: MS Porpetto - Porpetto,Via Bando

Latitude: 5080139

Longitude: 362432

Coordinate system: WGS84

Elevation: 7 m s.l.m.

Weather: Sole, assenza di vento

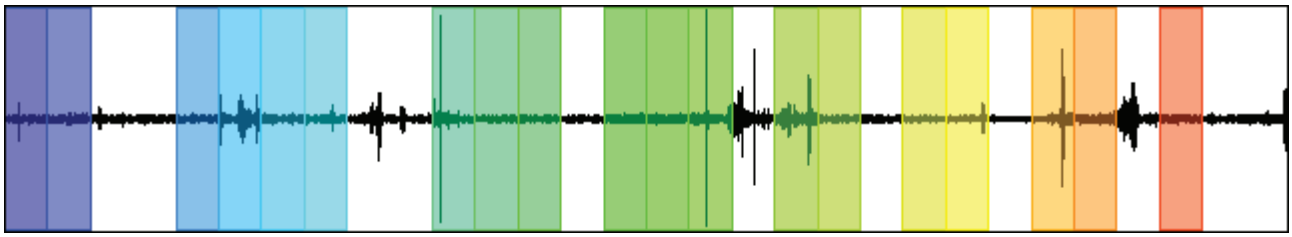
Notes: -

PHOTOGRAPHIC REFERENCES

SIGNAL AND WINDOWING

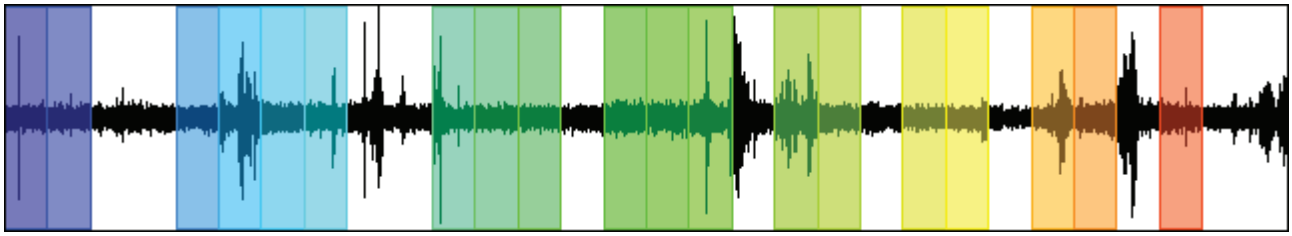
Sampling frequency:	200 Hz
Recording start time:	2017/03/13 09:18:03
Recording length:	25 min
Windows count:	19
Average windows length:	50
Signal coverage:	63.33%

19077 Counts **CHANNEL #1 [V]**



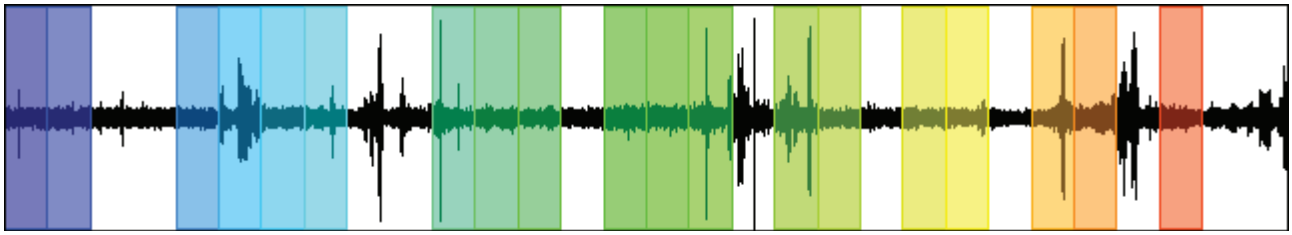
-18303 Counts

11220 Counts **CHANNEL #2 [N]**



-10604 Counts

12289 Counts **CHANNEL #3 [E]**



-13859 Counts

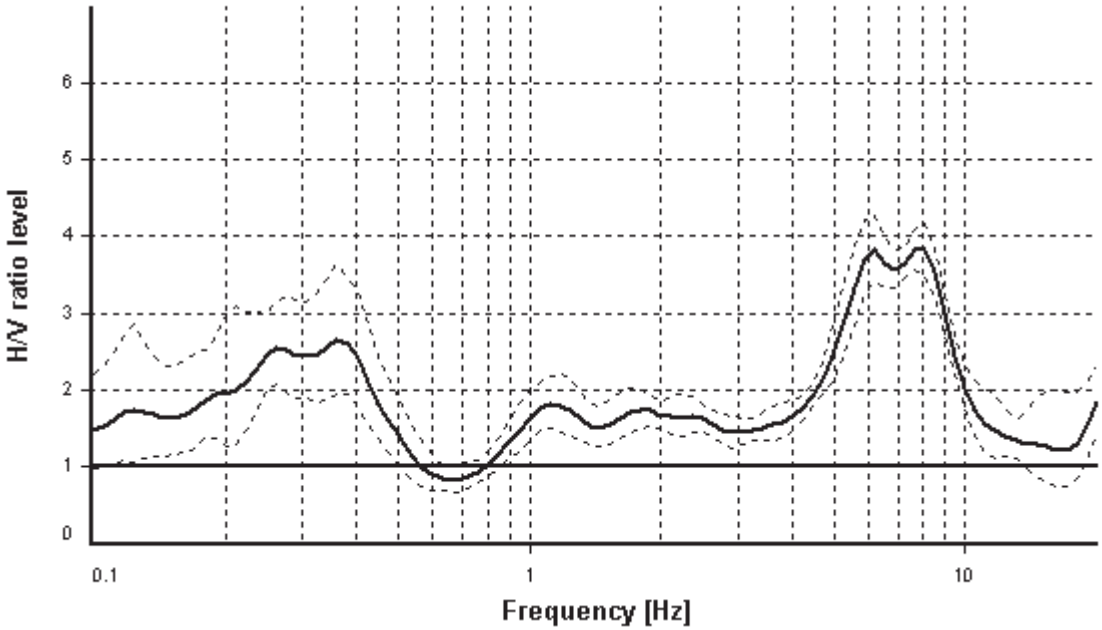
HVSR ANALYSIS

Tapering: Enabled (Bandwidth = 30%)

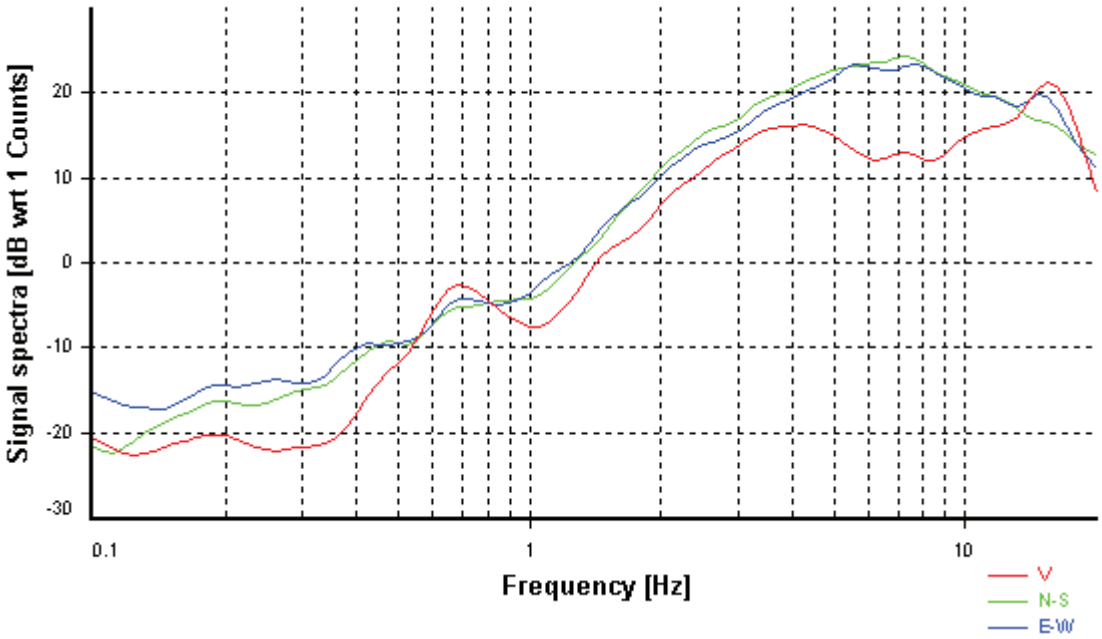
Smoothing: Proportional triangular (Bandwidth coefficient = 15)

Instrumental correction: Disabled

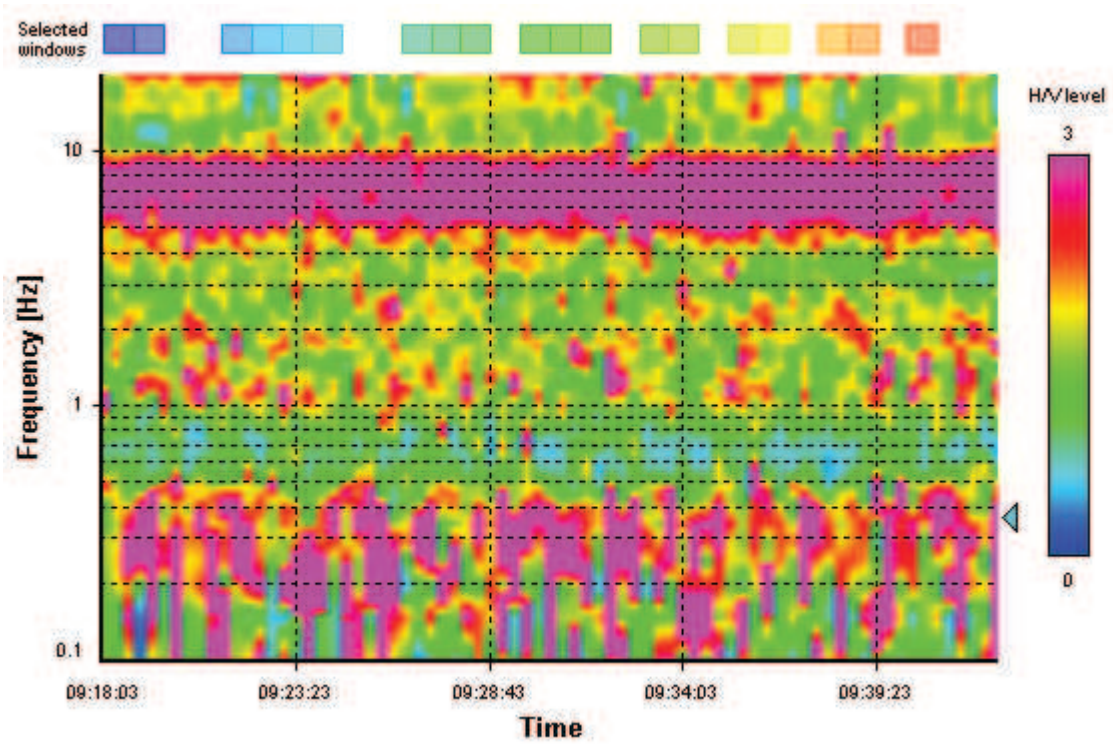
HVSR average



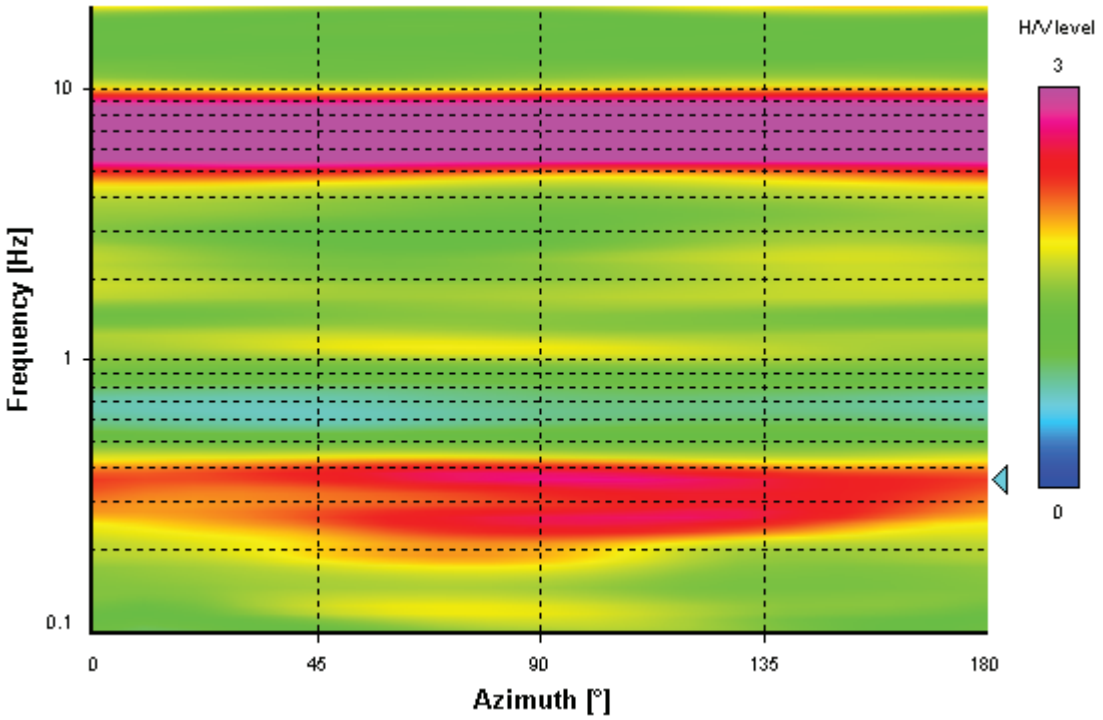
Signal spectra average



HVSR time-frequency analysis (20 seconds windows)



HVSR directional analysis



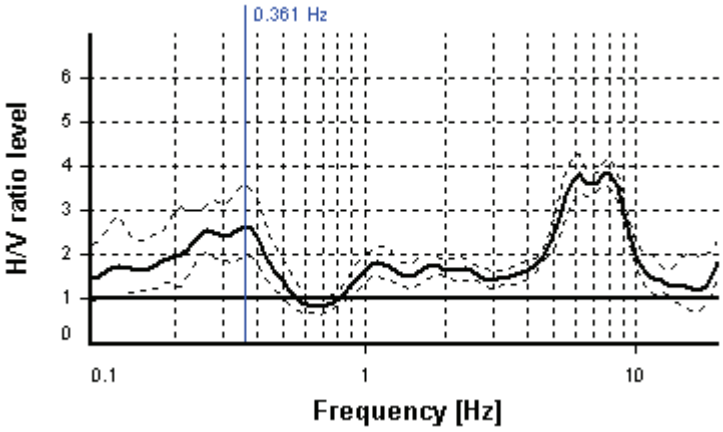
SESAME CRITERIA

Selected f_0 frequency

0.361 Hz

A_0 amplitude = *2.655*

Average f_0 = *0.337 ± 0.051*



HVSR curve reliability criteria		
$f_0 > 10 / L_w$	19 valid windows (length > 27.68 s) out of 19	OK
$n_c(f_0) > 200$	343.2 > 200	OK
$\sigma_A(f) < 3$ for $0.5f_0 < f < 2f_0$	Exceeded 0 times in 25	OK
HVSR peak clarity criteria		
$\exists\ f^-$ in $[f_0/4, f_0] \mid A_{H/V}(f^-) < A_0/2$	0 Hz	NO
$\exists\ f^+$ in $[f_0, 4f_0] \mid A_{H/V}(f^+) < A_0/2$	0.52544 Hz	OK
$A_0 > 2$	2.66 > 2	OK
$f_{peak}[A_{H/V}(f) \pm \sigma_A(f)] = f_0 \pm 5\%$	27.47% > 5%	NO
$\sigma_f < \varepsilon(f_0)$	0.05136 < 0.07225	OK
$\sigma_A(f_0) < \theta(f_0)$	1.36804 < 2.5	OK
Overall criteria fulfillment		NO

STATION INFORMATION

Station code: 0679

Model: SARA GEOBOX

Sensor: SARA SS45PACK (integrated 4.5 Hz sensors)

Notes: -

PLACE INFORMATION

Place ID: HVSR 5

Address: MS Porpetto - Loc. La Foredana

Latitude: 5077270

Longitude: 362118

Coordinate system: WGS84

Elevation: 5 m s.l.m.

Weather: Sole, assenza di vento

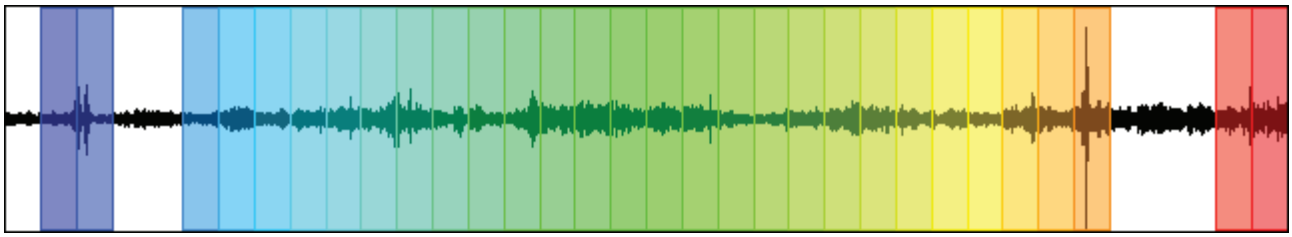
Notes: -

PHOTOGRAPHIC REFERENCES

SIGNAL AND WINDOWING

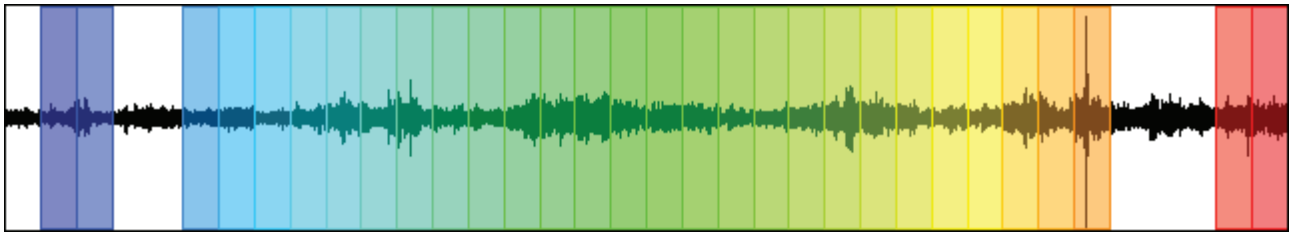
Sampling frequency:	200 Hz
Recording start time:	2017/03/13 10:15:58
Recording length:	30 min
Windows count:	30
Average windows length:	50
Signal coverage:	83.33%

27034 Counts **CHANNEL #1 [V]**



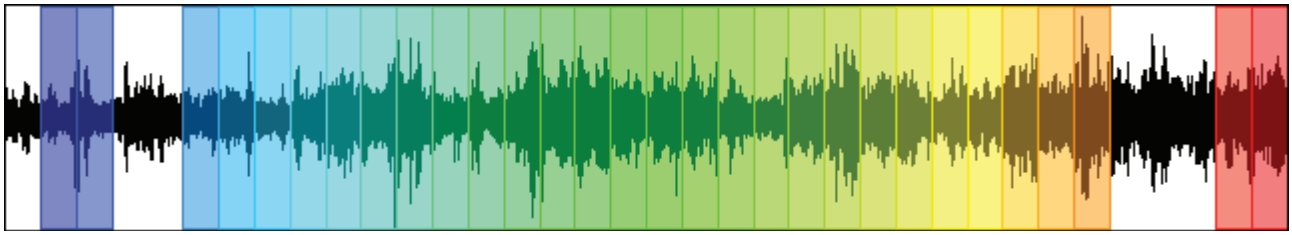
-32842 Counts

32497 Counts **CHANNEL #2 [N]**



-35652 Counts

11217 Counts **CHANNEL #3 [E]**



-12326 Counts

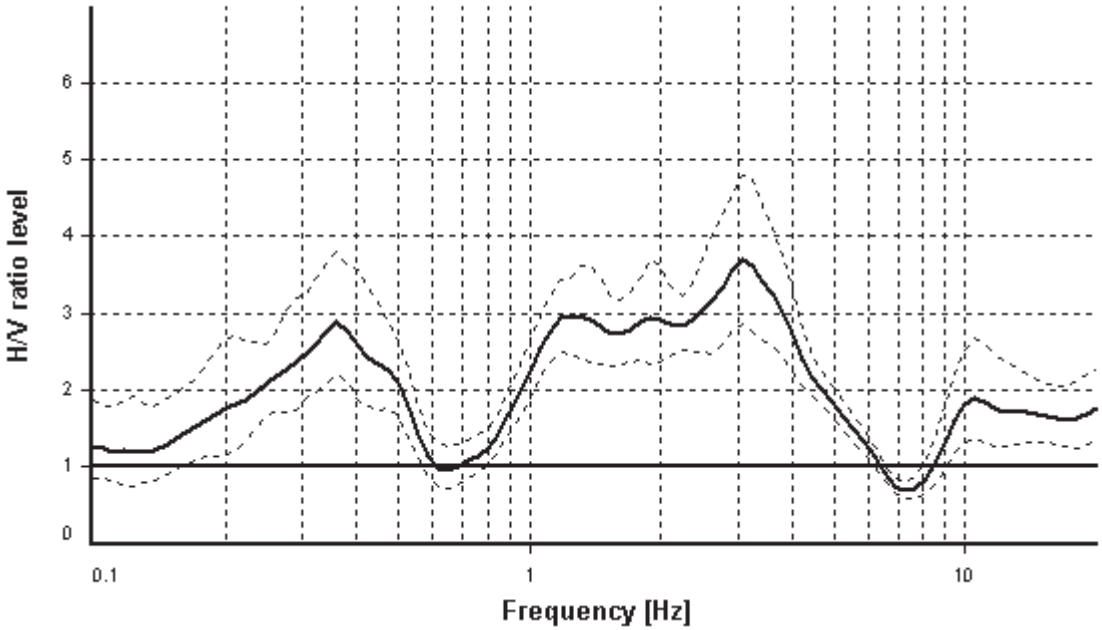
HVSR ANALYSIS

Tapering: Enabled (Bandwidth = 30%)

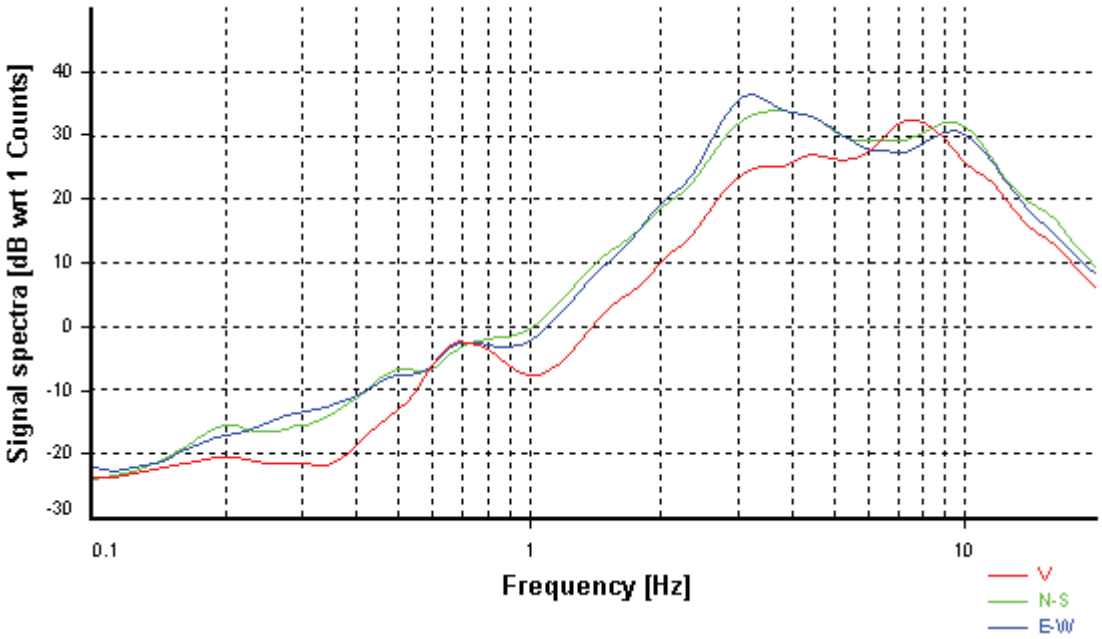
Smoothing: Proportional triangular (Bandwidth coefficient = 15)

Instrumental correction: Disabled

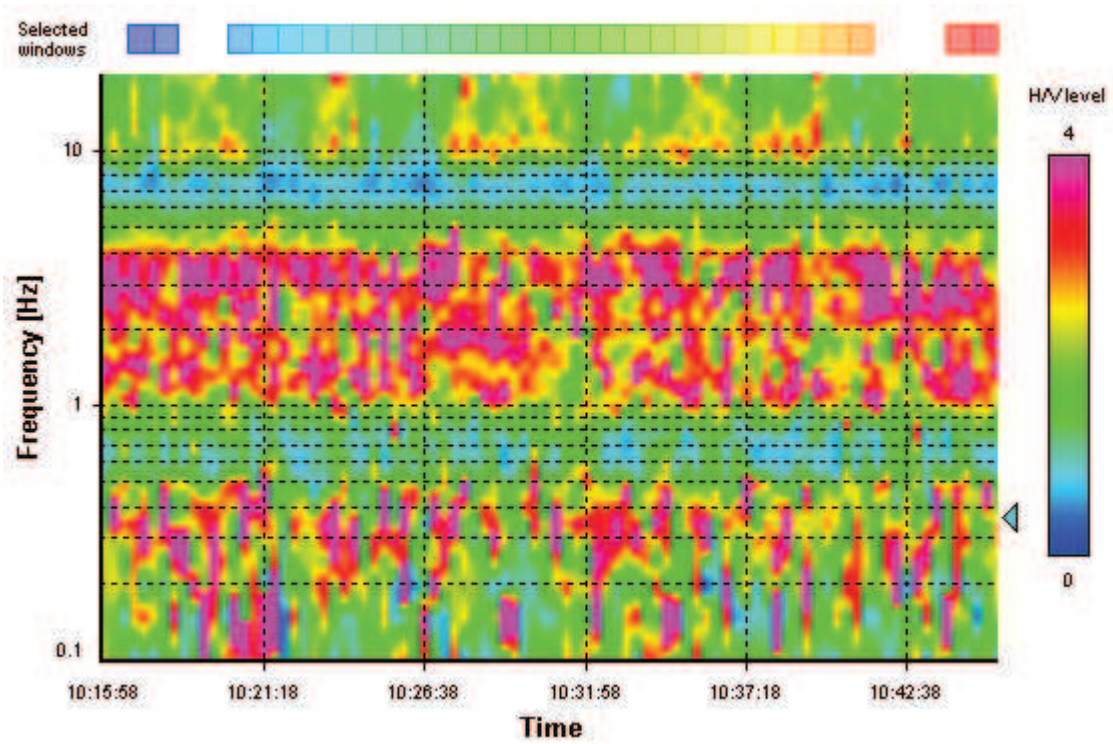
HVSR average



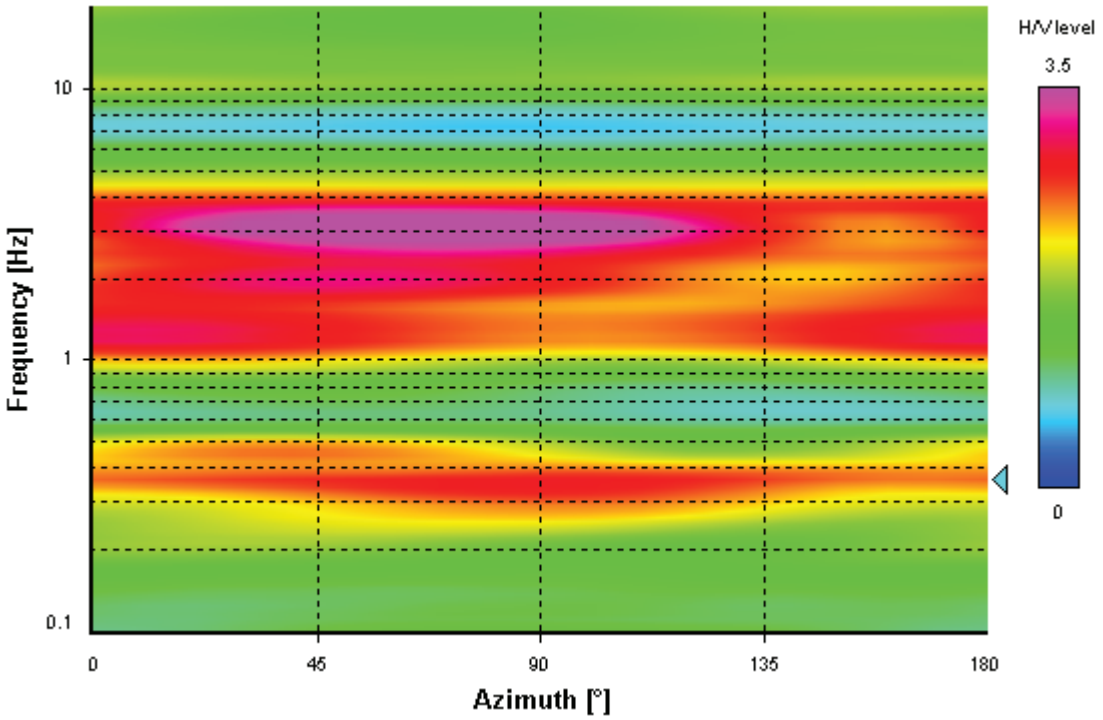
Signal spectra average



HVSR time-frequency analysis (20 seconds windows)



HVSR directional analysis



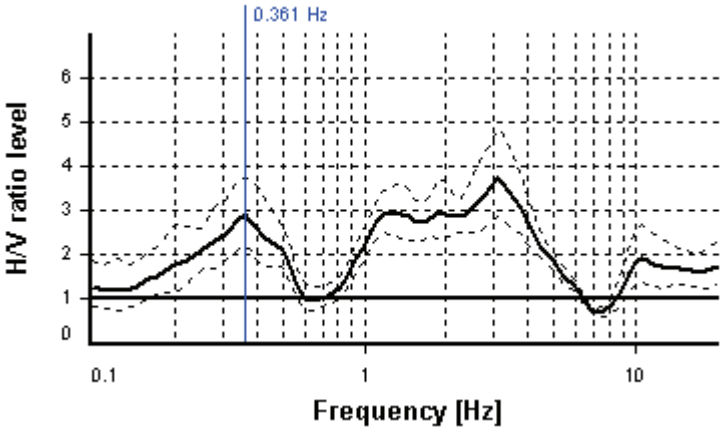
SESAME CRITERIA

Selected f_0 frequency

0.361 Hz

A_0 amplitude = *2.887*

Average f_0 = *0.350 ± 0.051*



HVSR curve reliability criteria		
$f_0 > 10 / L_w$	30 valid windows (length > 27.68 s) out of 30	**OK**
$n_c(f_0) > 200$	541.9 > 200	**OK**
$\sigma_A(f) < 3$ for $0.5f_0 < f < 2f_0$	Exceeded 0 times in 25	**OK**
HVSR peak clarity criteria		
$\exists\ f^-$ in $[f_0/4, f_0] \mid A_{H/V}(f^-) < A_0/2$	0.16188 Hz	**OK**
$\exists\ f^+$ in $[f_0, 4f_0] \mid A_{H/V}(f^+) < A_0/2$	0.55433 Hz	**OK**
$A_0 > 2$	2.89 > 2	**OK**
$f_{peak}[A_{H/V}(f) \pm \sigma_A(f)] = f_0 \pm 5\%$	0% <= 5%	**OK**
$\sigma_f < \varepsilon(f_0)$	0.05119 < 0.07225	**OK**
$\sigma_A(f_0) < \theta(f_0)$	1.31354 < 2.5	**OK**
Overall criteria fulfillment		**OK**

STATION INFORMATION

Station code: 0679

Model: SARA GEOBOX

Sensor: SARA SS45PACK (integrated 4.5 Hz sensors)

Notes: -

PLACE INFORMATION

Place ID: HVSR 6

Address: MS Porpetto - Villalta, Via Udine

Latitude: 5078541

Longitude: 361112

Coordinate system: WGS84

Elevation: 7 m s.l.m.

Weather: Nuvoloso, assenza di vento

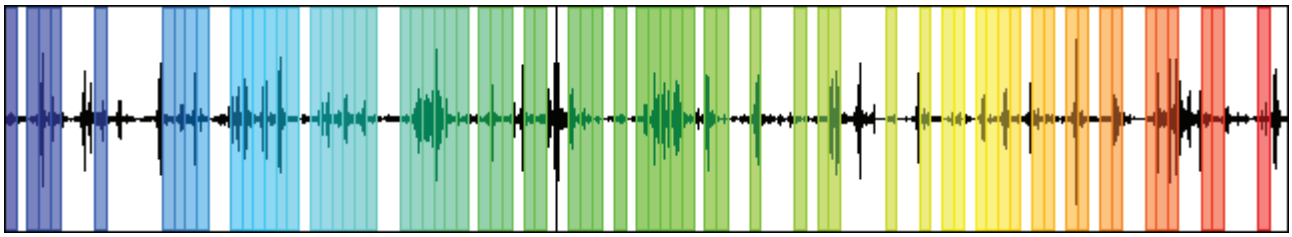
Notes: -

PHOTOGRAPHIC REFERENCES

SIGNAL AND WINDOWING

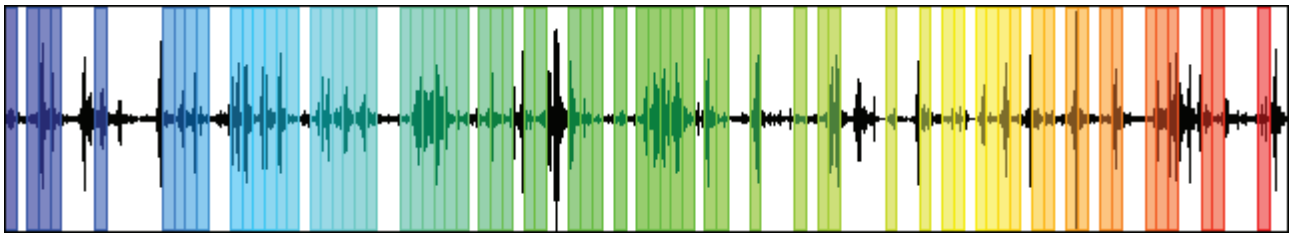
Sampling frequency:	200 Hz
Recording start time:	2017/02/13 12:30:58
Recording length:	37.88 min
Windows count:	67
Average windows length:	20
Signal coverage:	58.95%

207398 Counts **CHANNEL #1 [V]**



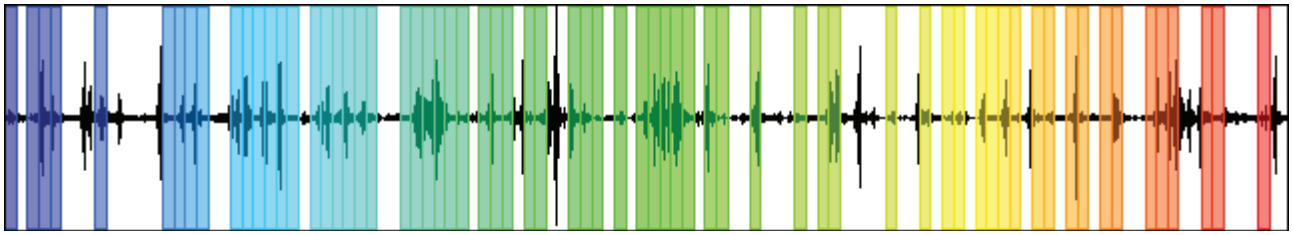
-207256 Counts

147147 Counts **CHANNEL #2 [N]**



-153472 Counts

208089 Counts **CHANNEL #3 [E]**



-200407 Counts

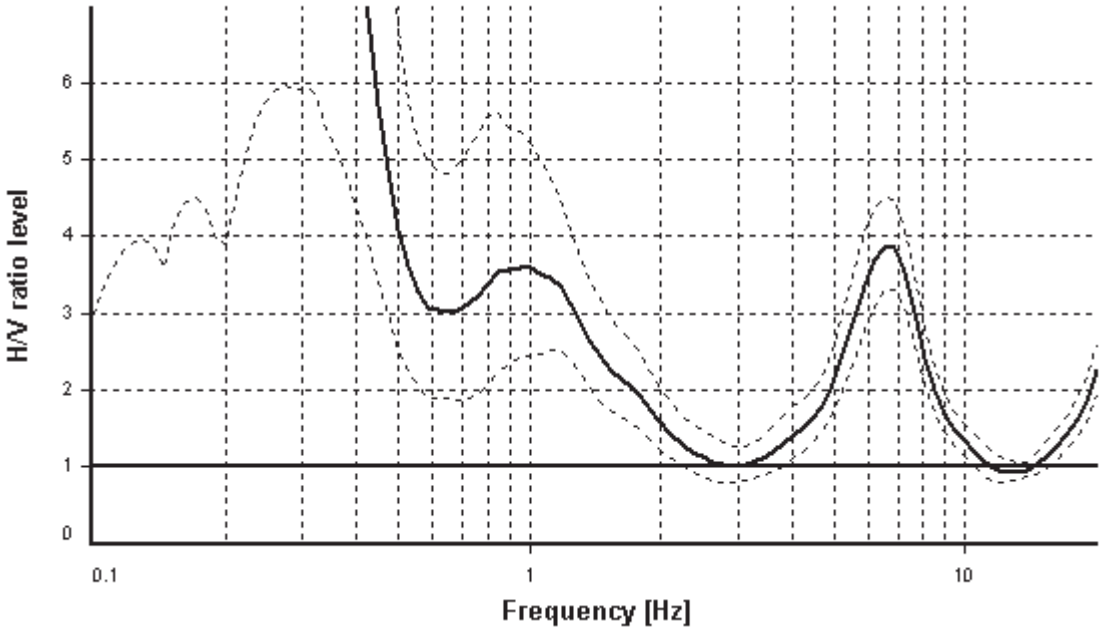
HVSR ANALYSIS

Tapering: Enabled (Bandwidth = 30%)

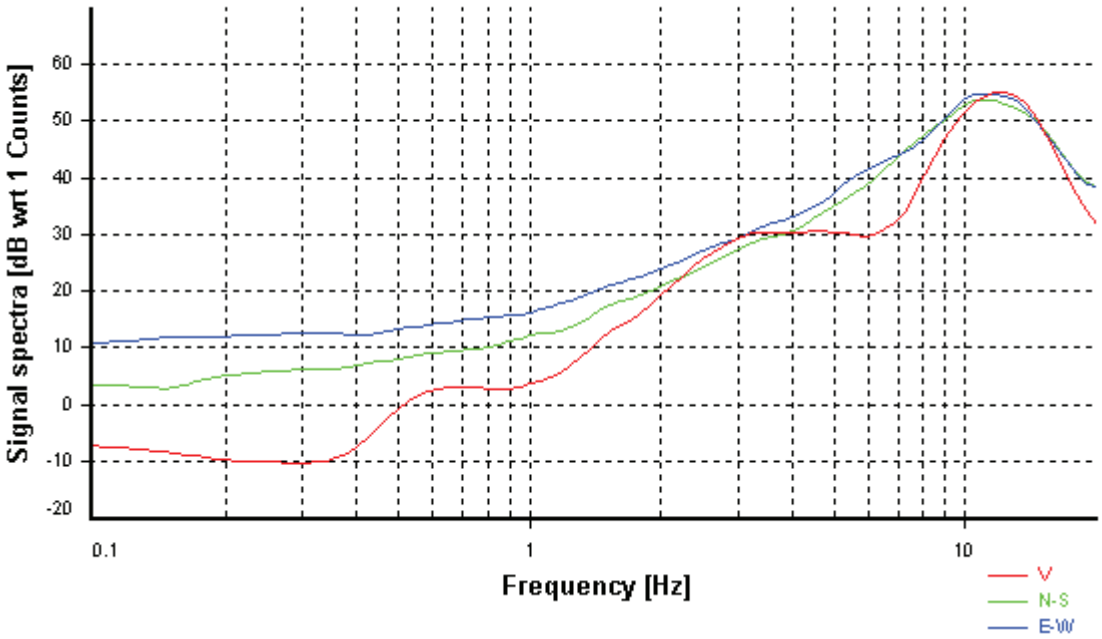
Smoothing: Proportional triangular (Bandwidth coefficient = 15)

Instrumental correction: Disabled

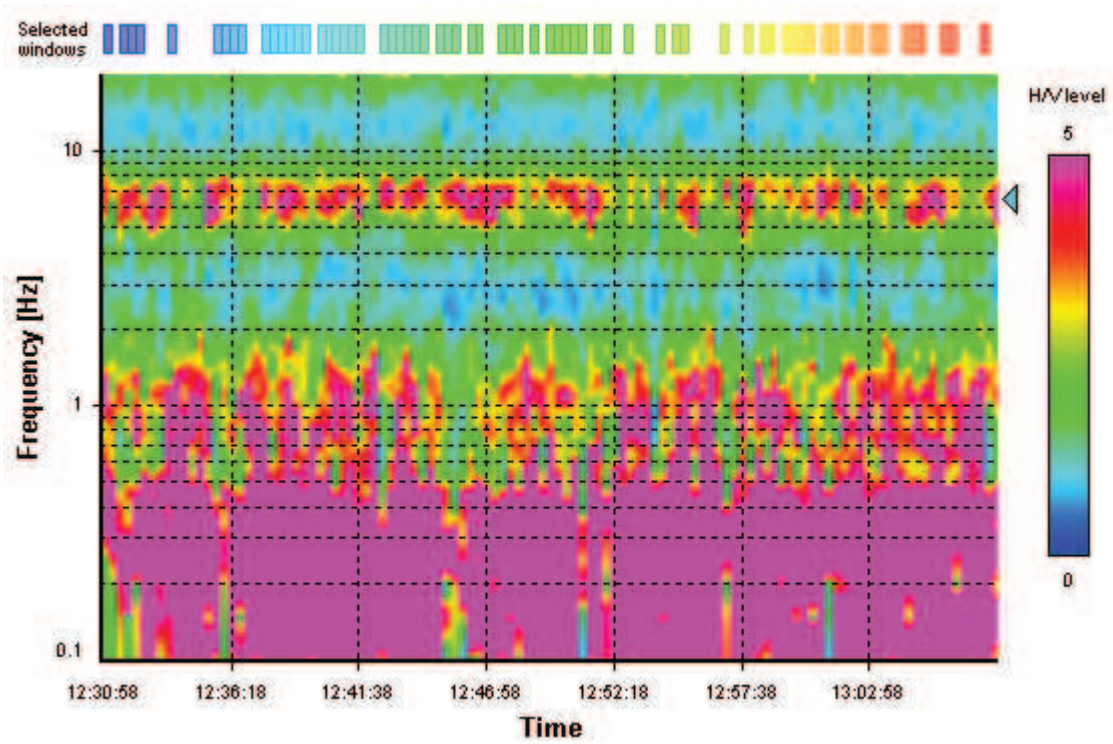
HVSR average



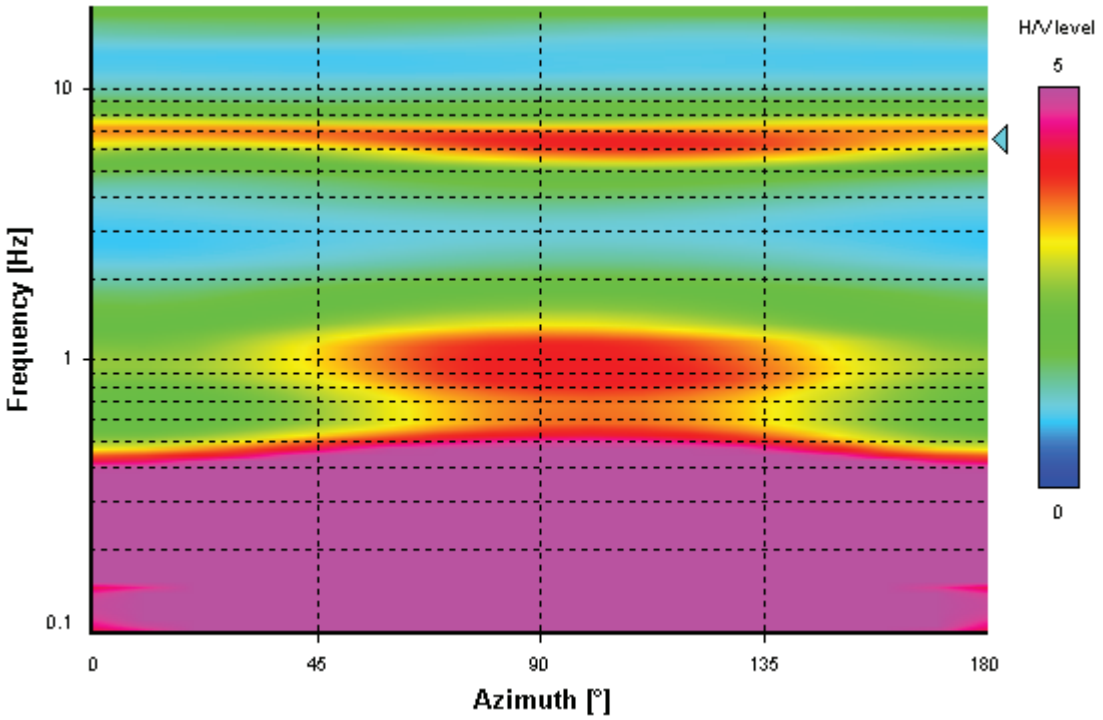
Signal spectra average



HVSR time-frequency analysis (20 seconds windows)



HVSR directional analysis



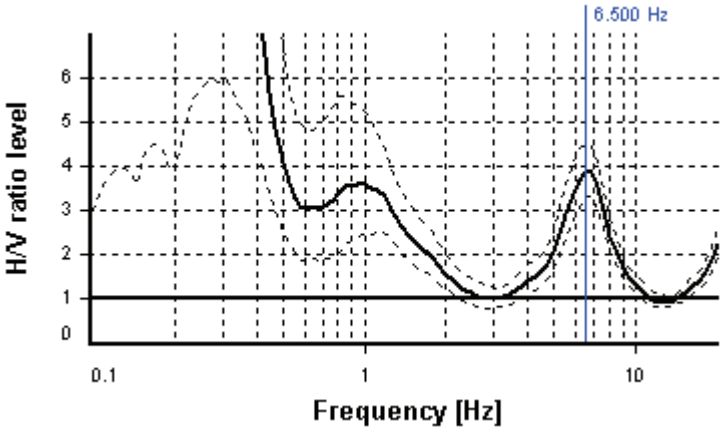
SESAME CRITERIA

Selected f_0 frequency

6.500 Hz

A_0 amplitude = *3.859*

Average f_0 = *6.584 ± 0.458*



HVSR curve reliability criteria		
$f_0 > 10 / L_w$	67 valid windows (length > 1.54 s) out of 67	**OK**
$n_c(f_0) > 200$	8710.39 > 200	**OK**
$\sigma_A(f) < 2$ for $0.5f_0 < f < 2f_0$	Exceeded 0 times in 25	**OK**
HVSR peak clarity criteria		
$\exists\ f^-$ in $[f_0/4, f_0] \mid A_{H/V}(f^-) < A_0/2$	4.71494 Hz	**OK**
$\exists\ f^+$ in $[f_0, 4f_0] \mid A_{H/V}(f^+) < A_0/2$	8.96167 Hz	**OK**
$A_0 > 2$	3.86 > 2	**OK**
$f_{peak}[A_{H/V}(f) \pm \sigma_A(f)] = f_0 \pm 5\%$	0% <= 5%	**OK**
$\sigma_f < \varepsilon(f_0)$	0.4585 >= 0.32501	**NO**
$\sigma_A(f_0) < \theta(f_0)$	1.16761 < 1.58	**OK**
Overall criteria fulfillment		**OK**

STATION INFORMATION

Station code: 0679

Model: SARA GEOBOX

Sensor: SARA SS45PACK (integrated 4.5 Hz sensors)

Notes: -

PLACE INFORMATION

Place ID: HVSR 7

Address: MS Porpetto - Pampaluna, Via Cjampaz

Latitude: 5078194

Longitude: 359531

Coordinate system: WGS84

Elevation: 8 m s.l.m.

Weather: Sereno, assenza di vento

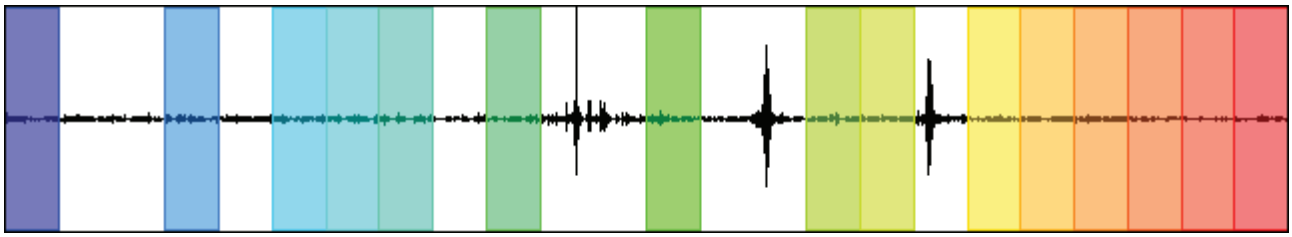
Notes: -

PHOTOGRAPHIC REFERENCES

SIGNAL AND WINDOWING

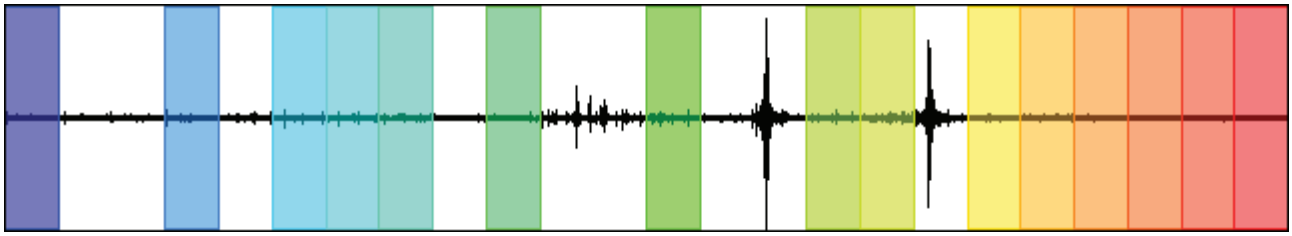
Sampling frequency:	200 Hz
Recording start time:	2017/03/13 11:53:08
Recording length:	20 min
Windows count:	15
Average windows length:	50
Signal coverage:	62.5%

71120 Counts **CHANNEL #1 [V]**



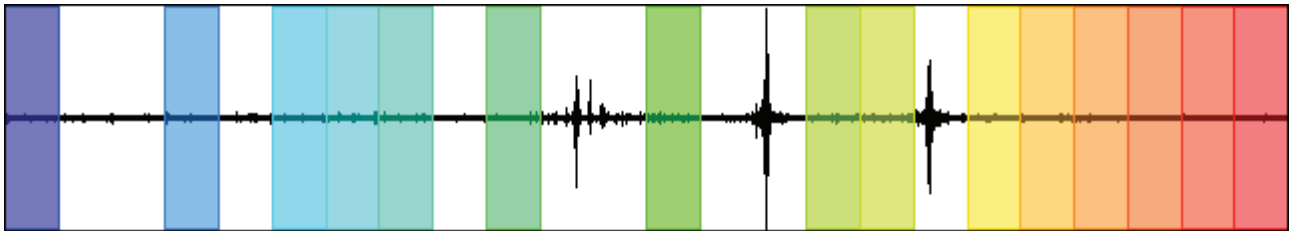
-42838 Counts

49362 Counts **CHANNEL #2 [N]**



-55368 Counts

49388 Counts **CHANNEL #3 [E]**



-50693 Counts

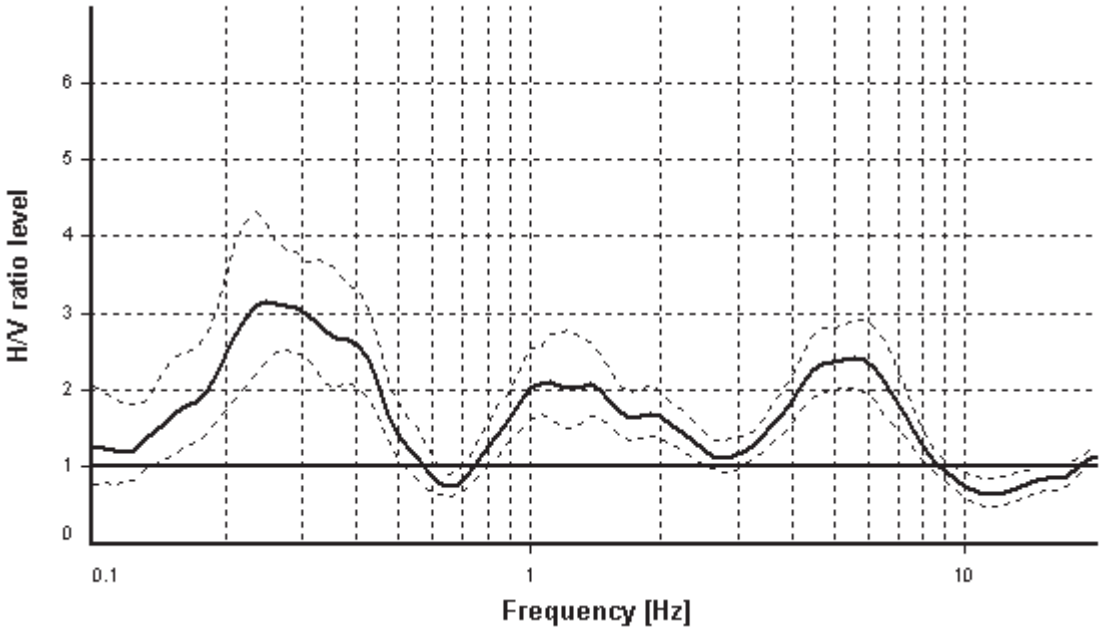
HVSR ANALYSIS

Tapering: Enabled (Bandwidth = 30%)

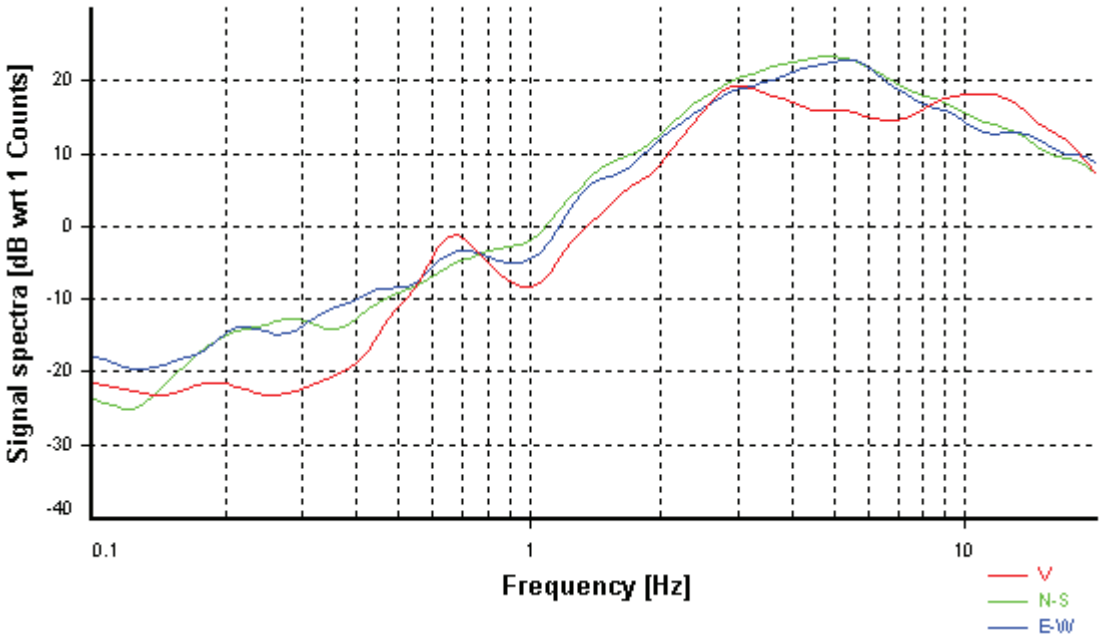
Smoothing: Proportional triangular (Bandwidth coefficient = 15)

Instrumental correction: Disabled

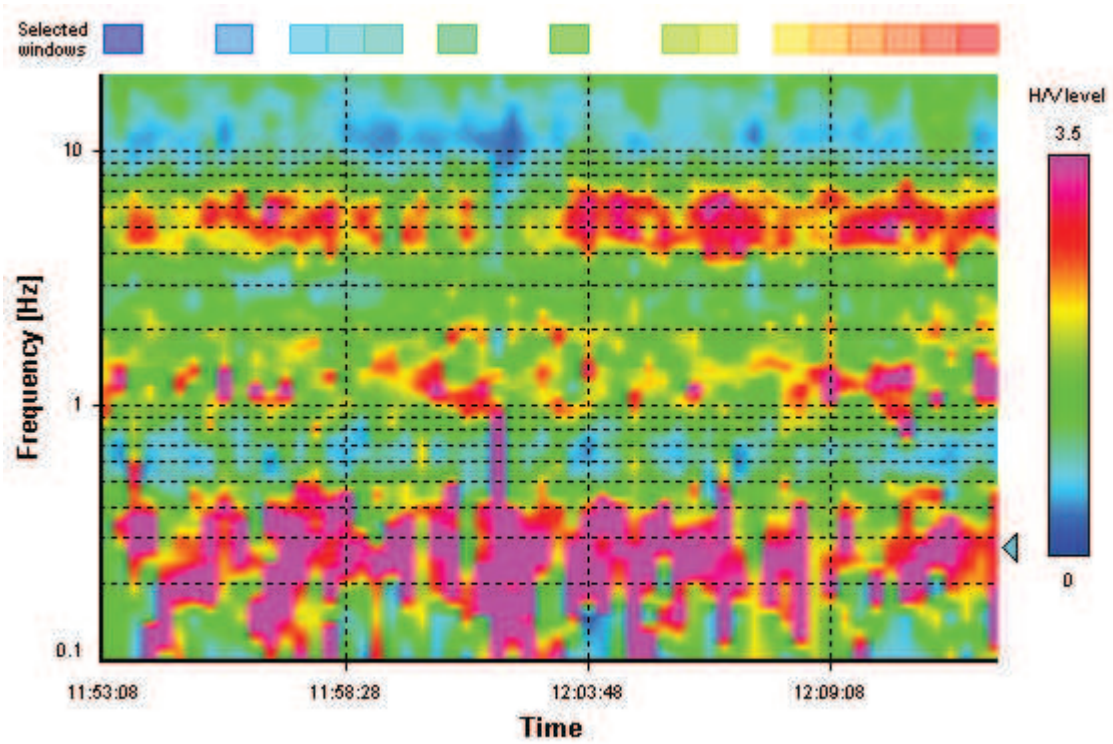
HVSR average



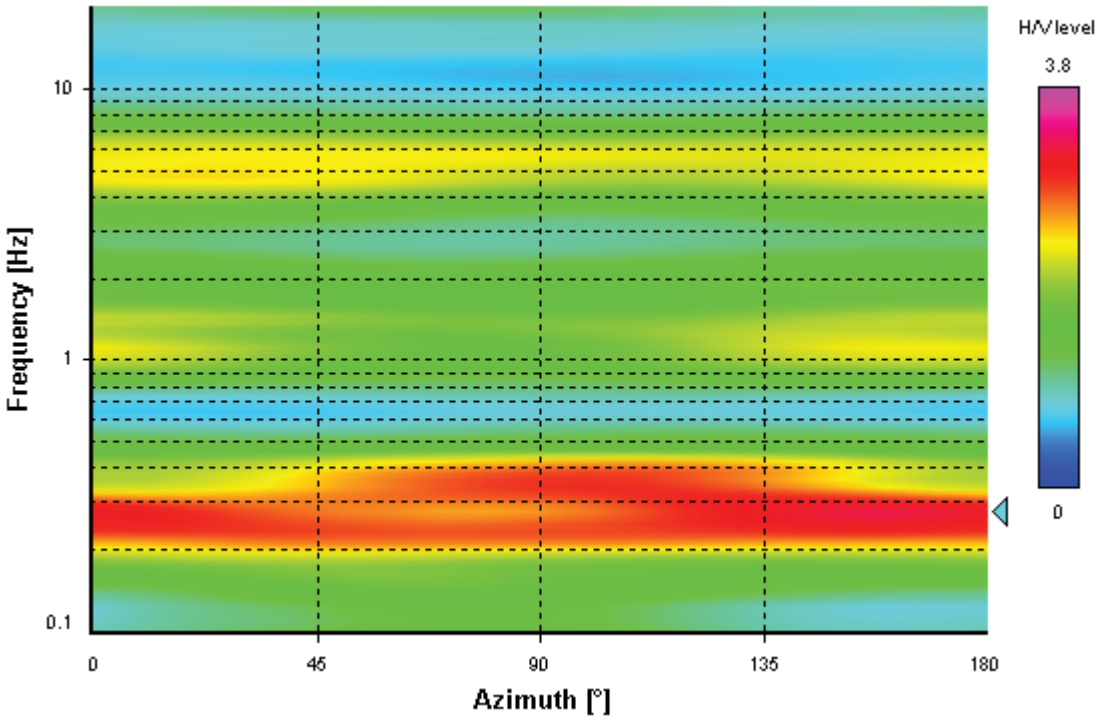
Signal spectra average



HVSR time-frequency analysis (20 seconds windows)



HVSR directional analysis



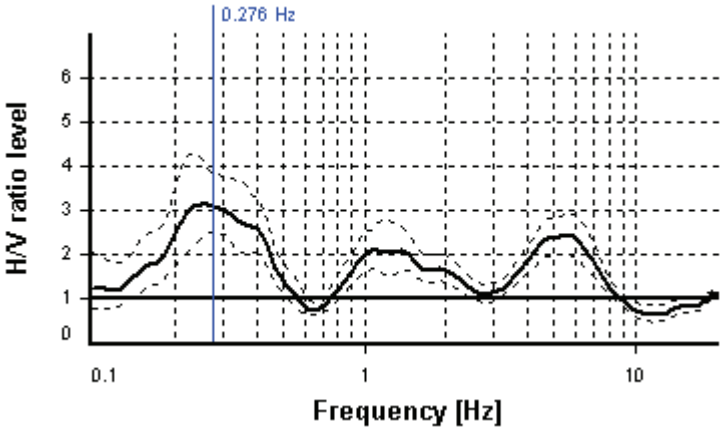
SESAME CRITERIA

Selected f_0 frequency

0.276 Hz

A_0 amplitude = *3.096*

Average f_0 = *0.295 ± 0.064*



HVSR curve reliability criteria		
$f_0 > 10 / L_w$	15 valid windows (length > 36.17 s) out of 15	OK
$n_c(f_0) > 200$	207.34 > 200	OK
$\sigma_A(f) < 3$ for $0.5f_0 < f < 2f_0$	Exceeded 0 times in 25	OK
HVSR peak clarity criteria		
$\exists\ f^-$ in $[f_0/4, f_0] \mid A_{H/V}(f^-) < A_0/2$	0.13787 Hz	OK
$\exists\ f^+$ in $[f_0, 4f_0] \mid A_{H/V}(f^+) < A_0/2$	0.49806 Hz	OK
$A_0 > 2$	3.1 > 2	OK
$f_{peak}[A_{H/V}(f) \pm \sigma_A(f)] = f_0 \pm 5\%$	14.83% > 5%	NO
$\sigma_f < \varepsilon(f_0)$	0.06363 >= 0.05529	NO
$\sigma_A(f_0) < \theta(f_0)$	1.23592 < 2.5	OK
Overall criteria fulfillment		NO

STATION INFORMATION

Station code: 0679

Model: SARA GEOBOX

Sensor: SARA SS45PACK (integrated 4.5 Hz sensors)

Notes: -

PLACE INFORMATION

Place ID: HVSR 8

Address: MS Porpetto - Pampaluna, Via San Girolamo

Latitude: 5079064

Longitude: 358387

Coordinate system: WGS84

Elevation: 9 m s.l.m.

Weather: Nuvoloso, assenza di vento

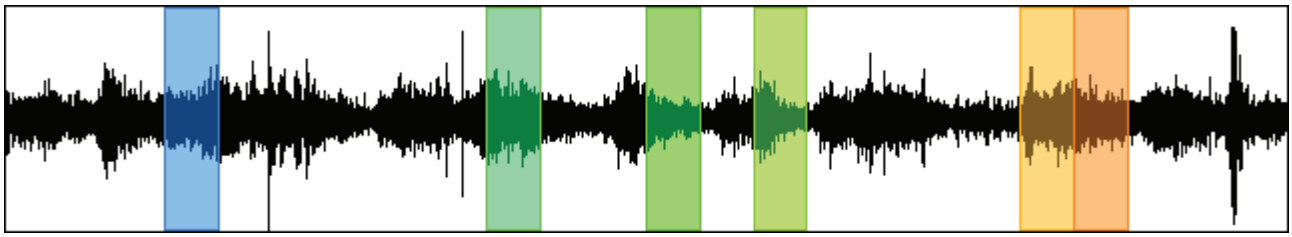
Notes: -

PHOTOGRAPHIC REFERENCES

SIGNAL AND WINDOWING

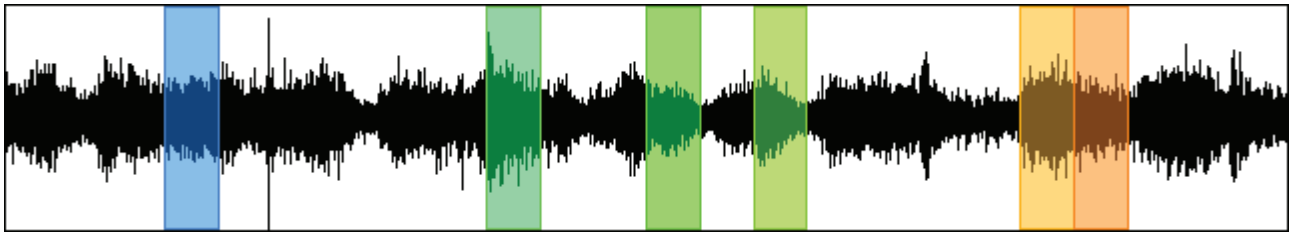
Sampling frequency:	200 Hz
Recording start time:	2017/02/13 11:47:11
Recording length:	20 min
Windows count:	6
Average windows length:	50
Signal coverage:	25%

9507 Counts **CHANNEL #1 [V]**



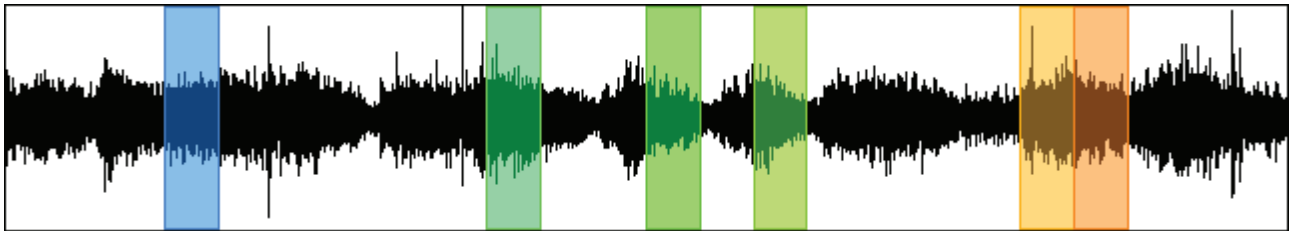
-11539 Counts

11188 Counts **CHANNEL #2 [N]**



-12551 Counts

11739 Counts **CHANNEL #3 [E]**



-10493 Counts

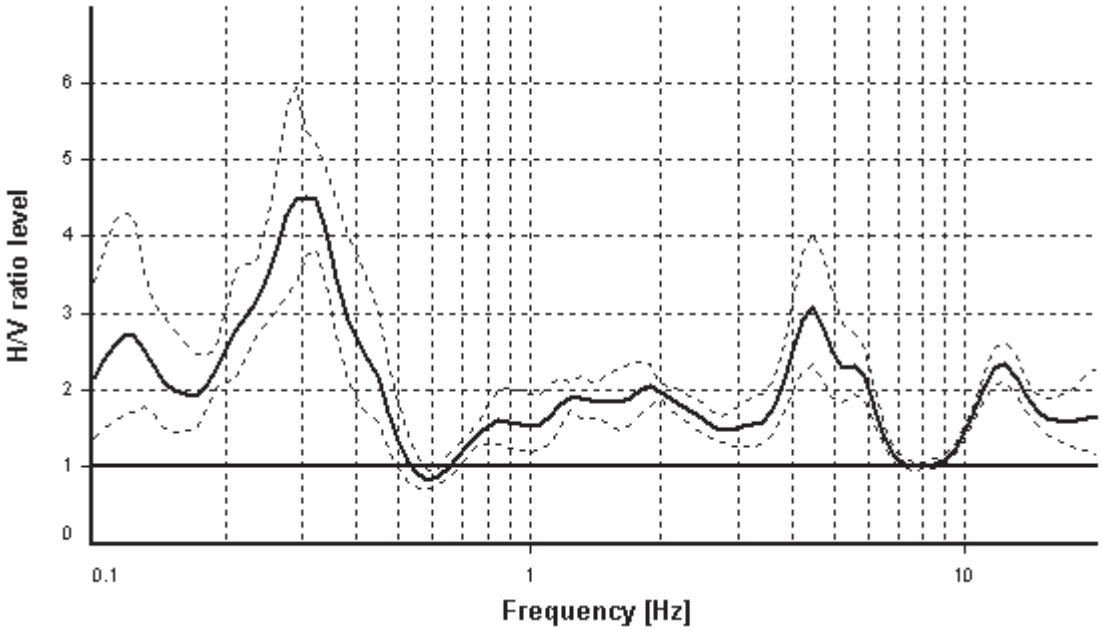
HVSR ANALYSIS

Tapering: Enabled (Bandwidth = 30%)

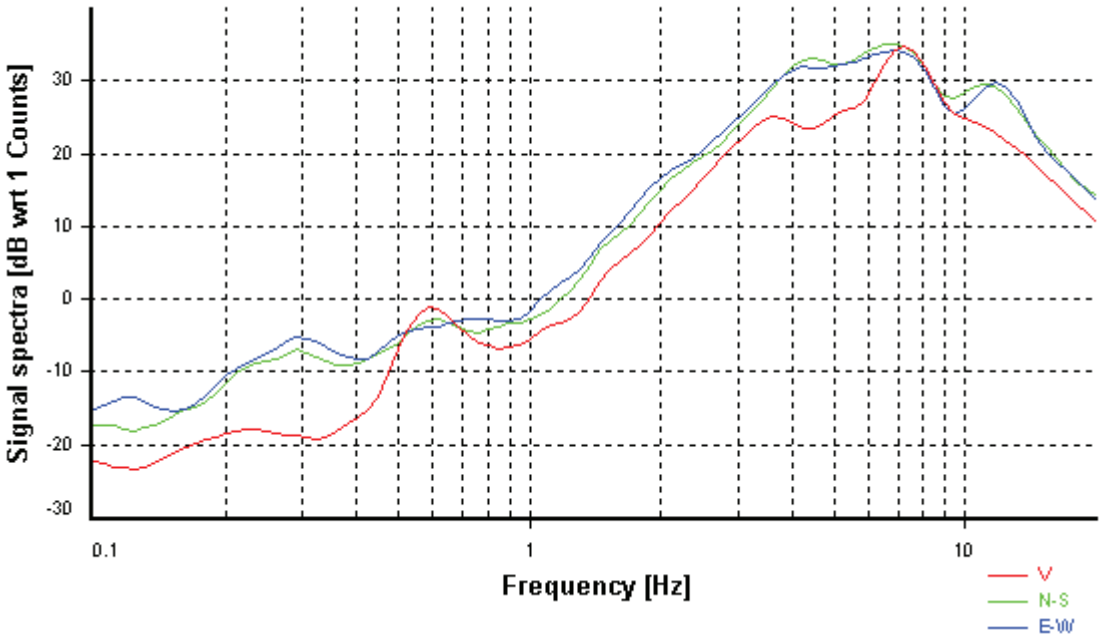
Smoothing: Proportional triangular (Bandwidth coefficient = 15)

Instrumental correction: Disabled

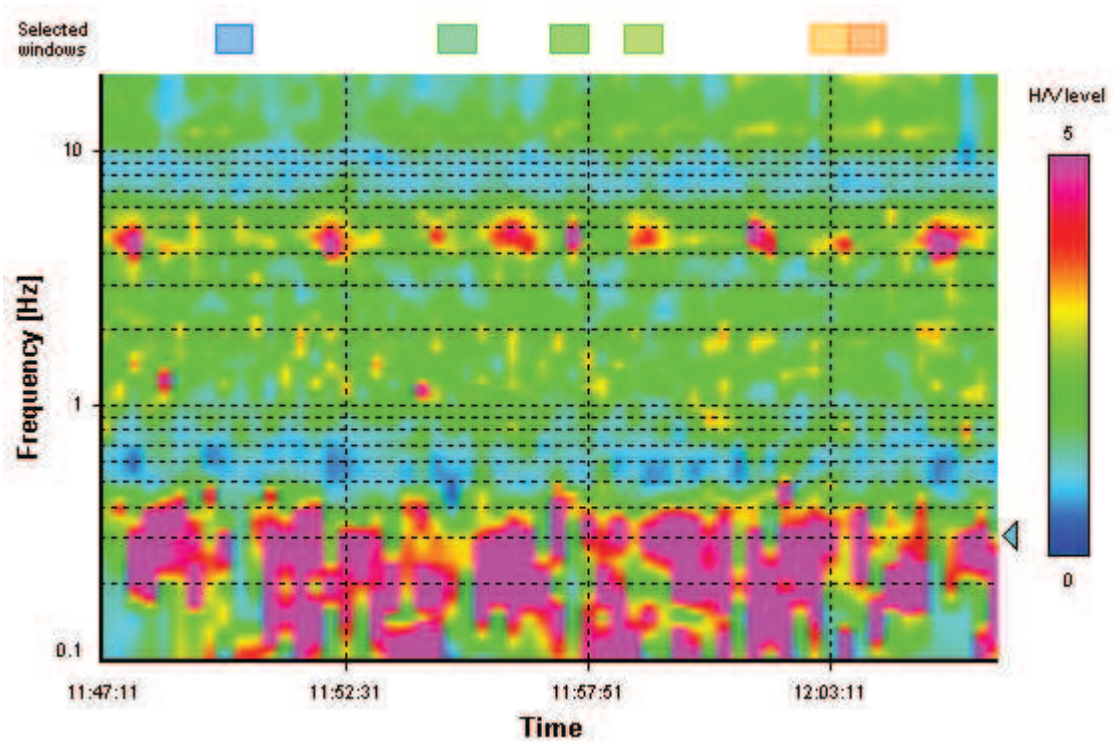
HVSR average



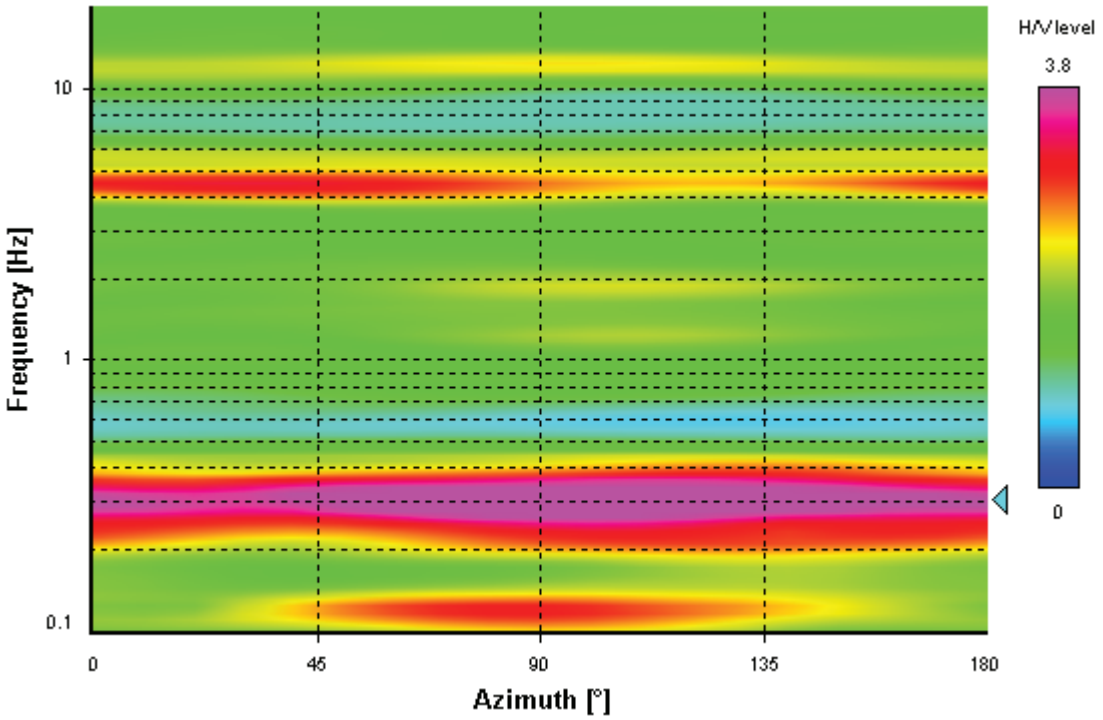
Signal spectra average



HVSR time-frequency analysis (20 seconds windows)



HVSR directional analysis



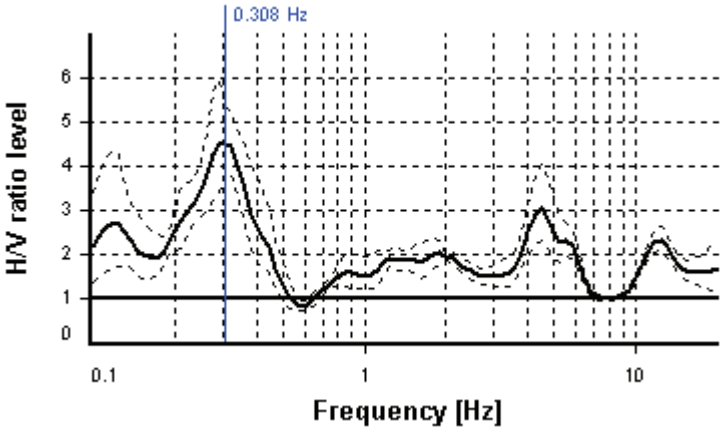
SESAME CRITERIA

Selected f_0 frequency

0.308 Hz

A_0 amplitude = *4.497*

Average f_0 = *0.306 ± 0.022*



HVSR curve reliability criteria		
$f_0 > 10 / L_w$	6 valid windows (length > 32.5 s) out of 6	**OK**
$n_c(f_0) > 200$	92.3 <= 200	**NO**
$\sigma_A(f) < 3$ for $0.5f_0 < f < 2f_0$	Exceeded 0 times in 25	**OK**
HVSR peak clarity criteria		
$\exists\ f^-$ in $[f_0/4, f_0] \mid A_{H/V}(f^-) < A_0/2$	0.18016 Hz	**OK**
$\exists\ f^+$ in $[f_0, 4f_0] \mid A_{H/V}(f^+) < A_0/2$	0.4475 Hz	**OK**
$A_0 > 2$	4.5 > 2	**OK**
$f_{peak}[A_{H/V}(f) \pm \sigma_A(f)] = f_0 \pm 5\%$	5.5% > 5%	**NO**
$\sigma_f < \varepsilon(f_0)$	0.02155 < 0.06154	**OK**
$\sigma_A(f_0) < \theta(f_0)$	1.1956 < 2.5	**OK**
Overall criteria fulfillment		**NO**

STATION INFORMATION

Station code: 0679

Model: SARA GEOBOX

Sensor: SARA SS45PACK (integrated 4.5 Hz sensors)

Notes: -

PLACE INFORMATION

Place ID: HVSR 9

Address: MS Porpetto - Corgnolo, Casali Rovere

Latitude: 5079949

Longitude: 359331

Coordinate system: WGS84

Elevation: 10 m s.l.m.

Weather: Sereno, assenza di vento

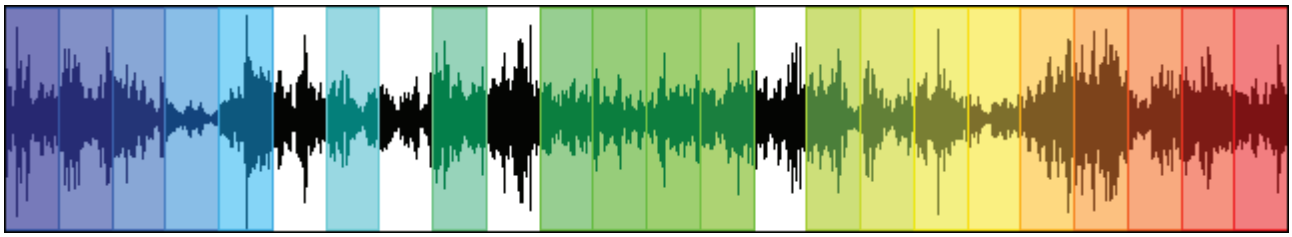
Notes: -

PHOTOGRAPHIC REFERENCES

SIGNAL AND WINDOWING

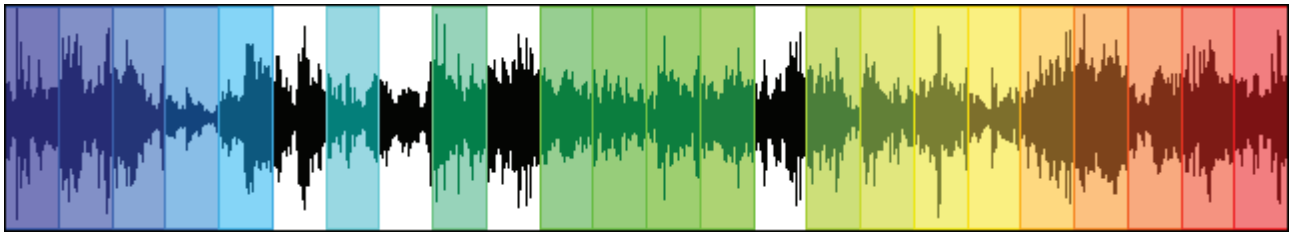
Sampling frequency:	200 Hz
Recording start time:	2017/03/13 11:14:57
Recording length:	20 min
Windows count:	20
Average windows length:	50
Signal coverage:	83.33%

36029 Counts **CHANNEL #1 [V]**



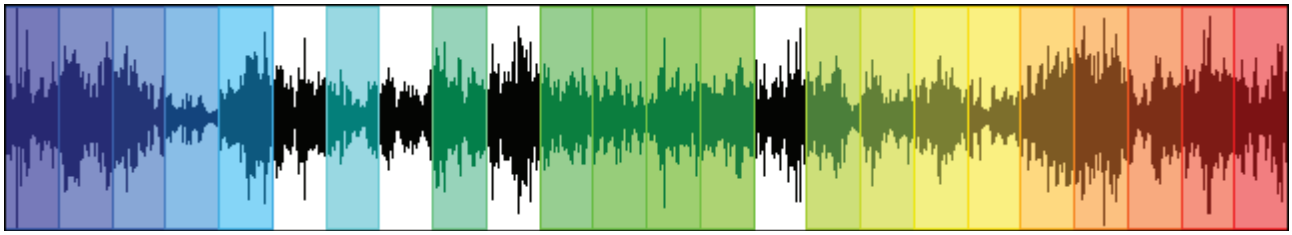
-38604 Counts

40573 Counts **CHANNEL #2 [N]**



-36813 Counts

40504 Counts **CHANNEL #3 [E]**



-39955 Counts

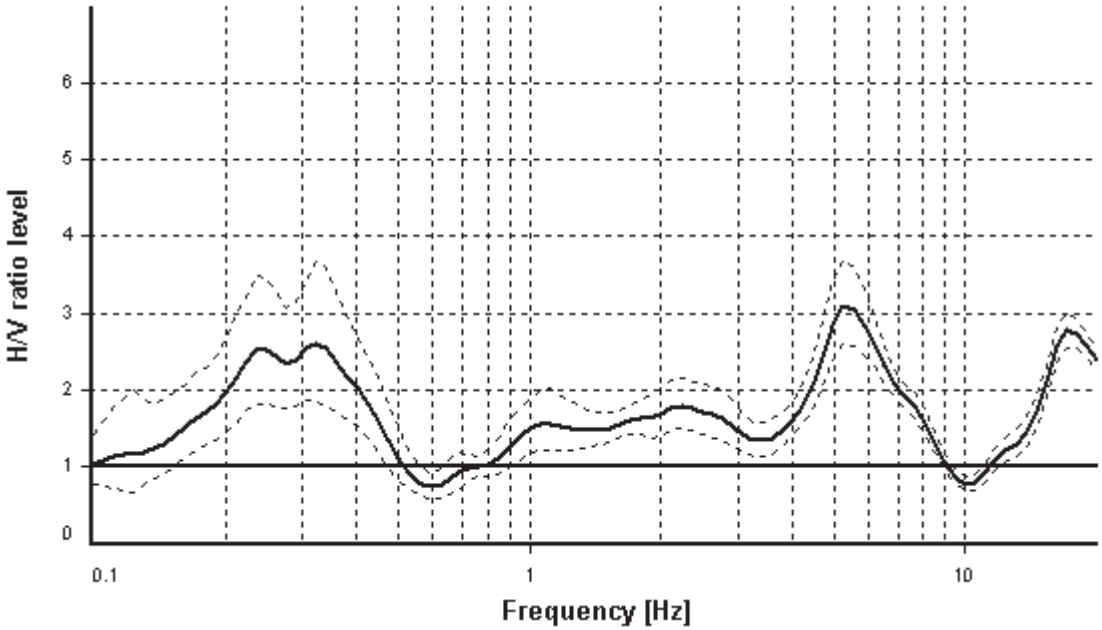
HVSR ANALYSIS

Tapering: Enabled (Bandwidth = 30%)

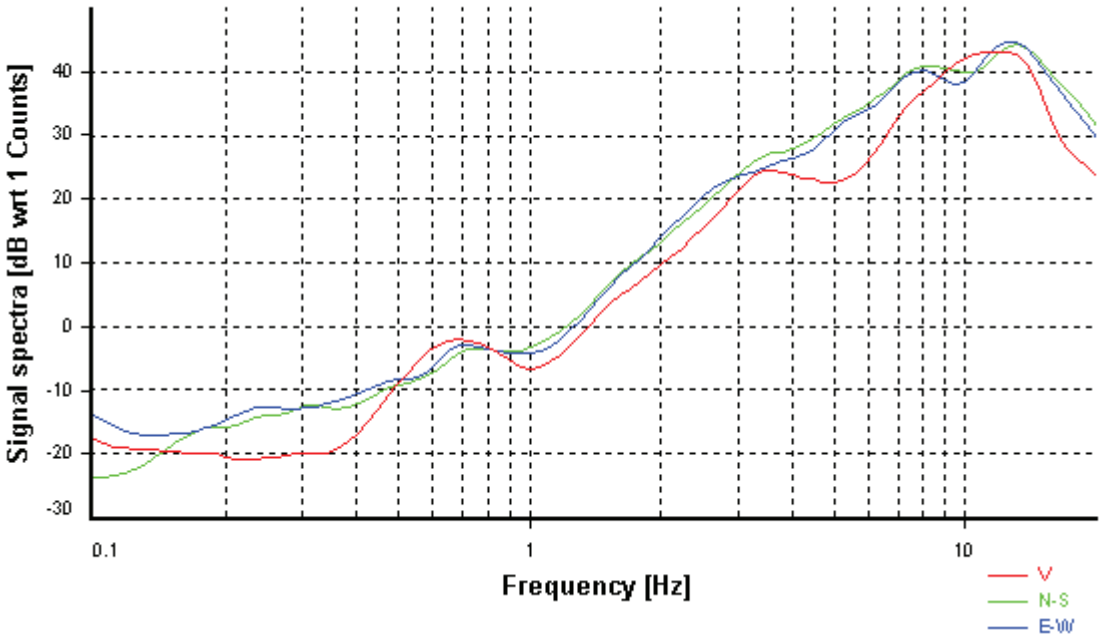
Smoothing: Proportional triangular (Bandwidth coefficient = 15)

Instrumental correction: Disabled

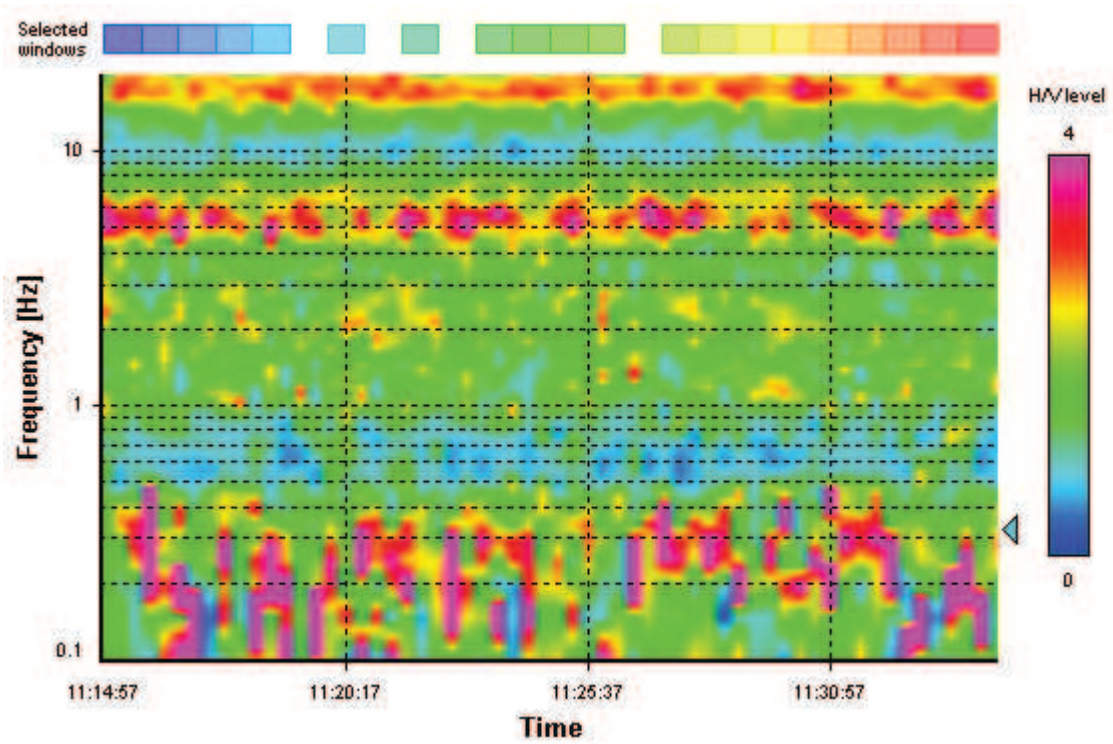
HVSR average



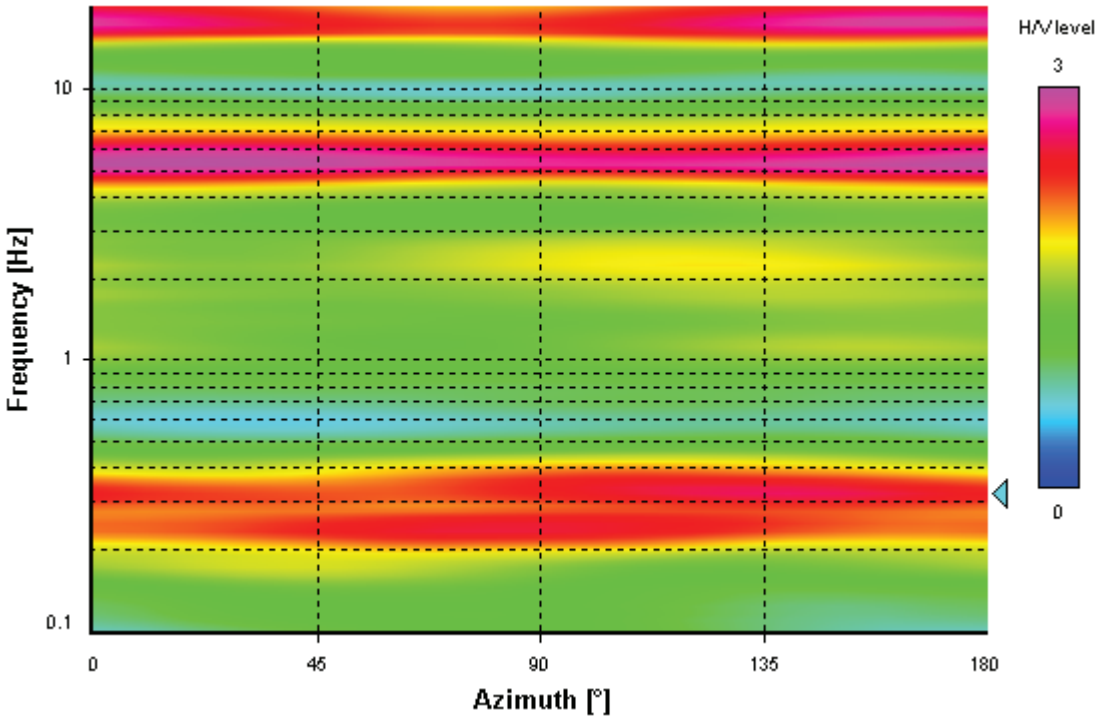
Signal spectra average



HVSR time-frequency analysis (20 seconds windows)



HVSR directional analysis



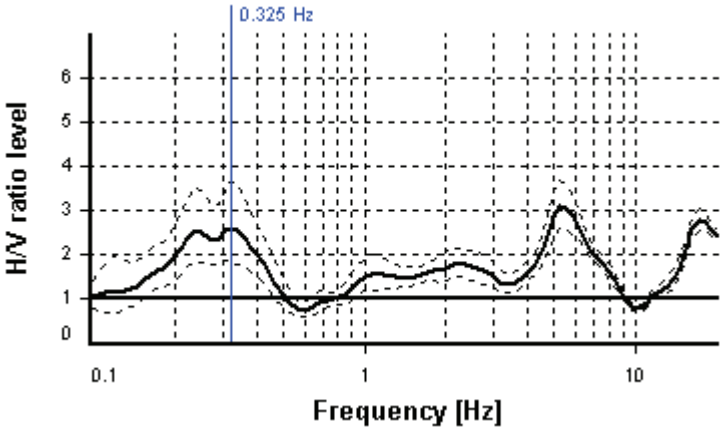
SESAME CRITERIA

Selected f_0 frequency

0.325 Hz

A_0 amplitude = *2.591*

Average f_0 = *0.289 ± 0.047*



HVSR curve reliability criteria		
$f_0 > 10 / L_w$	20 valid windows (length > 30.81 s) out of 20	OK
$n_c(f_0) > 200$	324.59 > 200	OK
$\sigma_A(f) < 3$ for $0.5f_0 < f < 2f_0$	Exceeded 0 times in 25	OK
HVSR peak clarity criteria		
$\exists\ f^-$ in $[f_0/4, f_0] \mid A_{H/V}(f^-) < A_0/2$	0.14545 Hz	OK
$\exists\ f^+$ in $[f_0, 4f_0] \mid A_{H/V}(f^+) < A_0/2$	0.49806 Hz	OK
$A_0 > 2$	2.59 > 2	OK
$f_{peak}[A_{H/V}(f) \pm \sigma_A(f)] = f_0 \pm 5\%$	5.21% > 5%	NO
$\sigma_f < \varepsilon(f_0)$	0.04674 < 0.06492	OK
$\sigma_A(f_0) < \theta(f_0)$	1.41244 < 2.5	OK
Overall criteria fulfillment		OK

STATION INFORMATION

Station code: 0679

Model: SARA GEOBOX

Sensor: SARA SS45PACK (integrated 4.5 Hz sensors)

Notes: -

PLACE INFORMATION

Place ID: HVSR 10

Address: MS Porpetto - Corgnolo, Via Aldo Moro

Latitude: 5081084

Longitude: 359982

Coordinate system: WGS84

Elevation: 11 m s.l.m.

Weather: Nuvoloso, assenza di vento

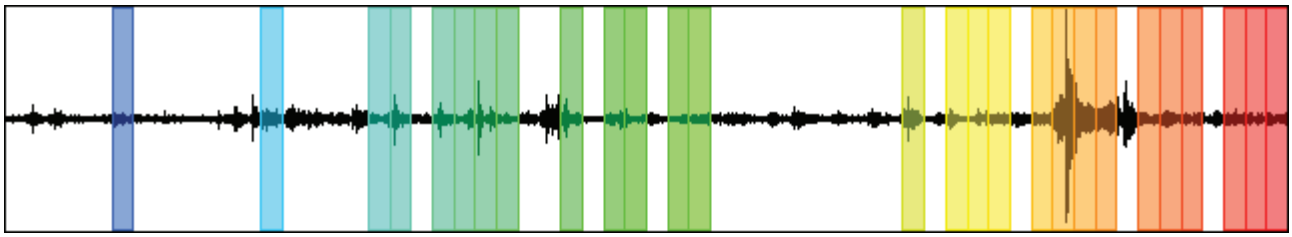
Notes: -

PHOTOGRAPHIC REFERENCES

SIGNAL AND WINDOWING

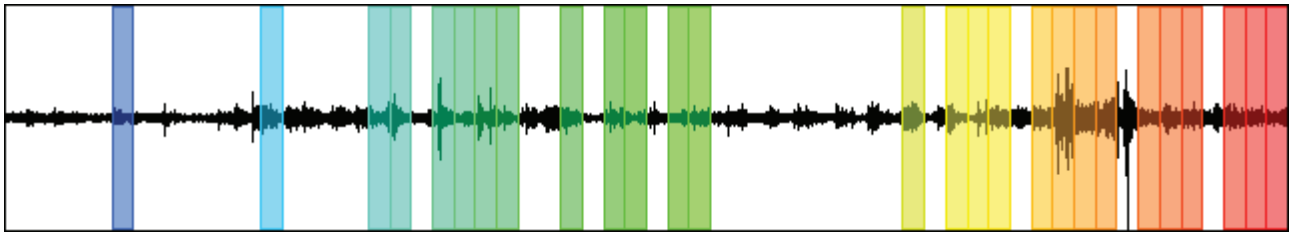
Sampling frequency:	200 Hz
Recording start time:	2017/02/13 11:11:26
Recording length:	20 min
Windows count:	27
Average windows length:	20
Signal coverage:	45%

33427 Counts **CHANNEL #1 [V]**



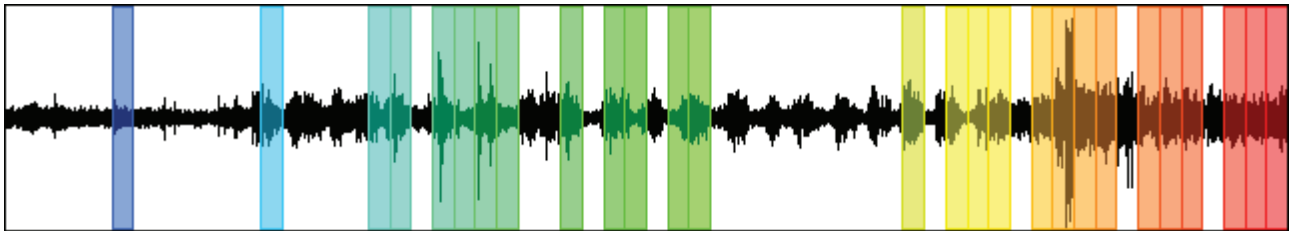
-30928 Counts

16692 Counts **CHANNEL #2 [N]**



-38070 Counts

16653 Counts **CHANNEL #3 [E]**



-18511 Counts

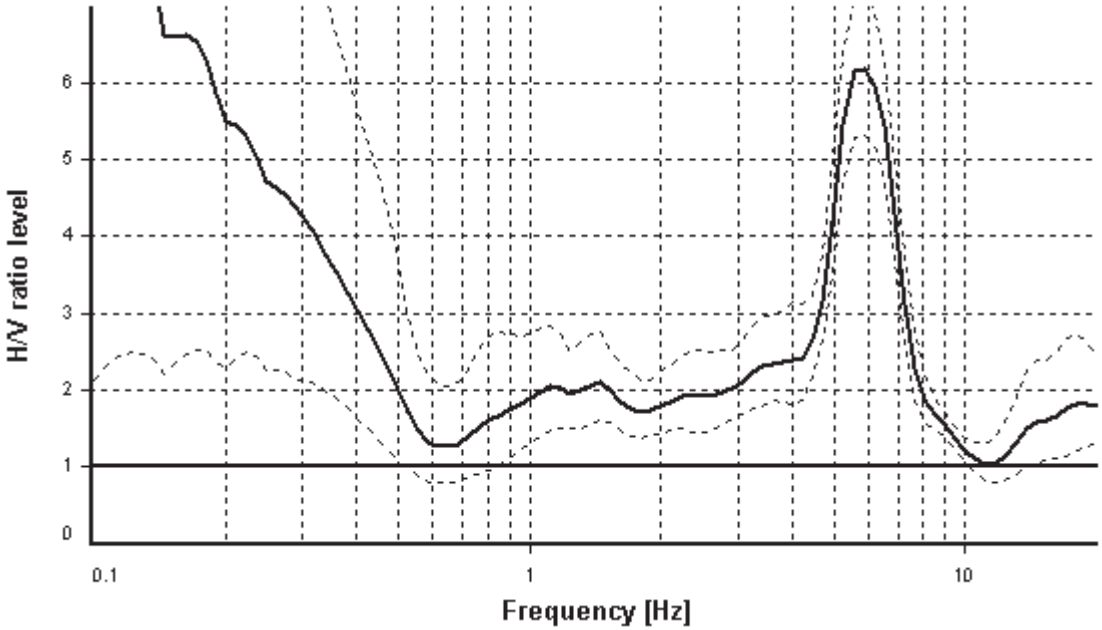
HVSR ANALYSIS

Tapering: Enabled (Bandwidth = 30%)

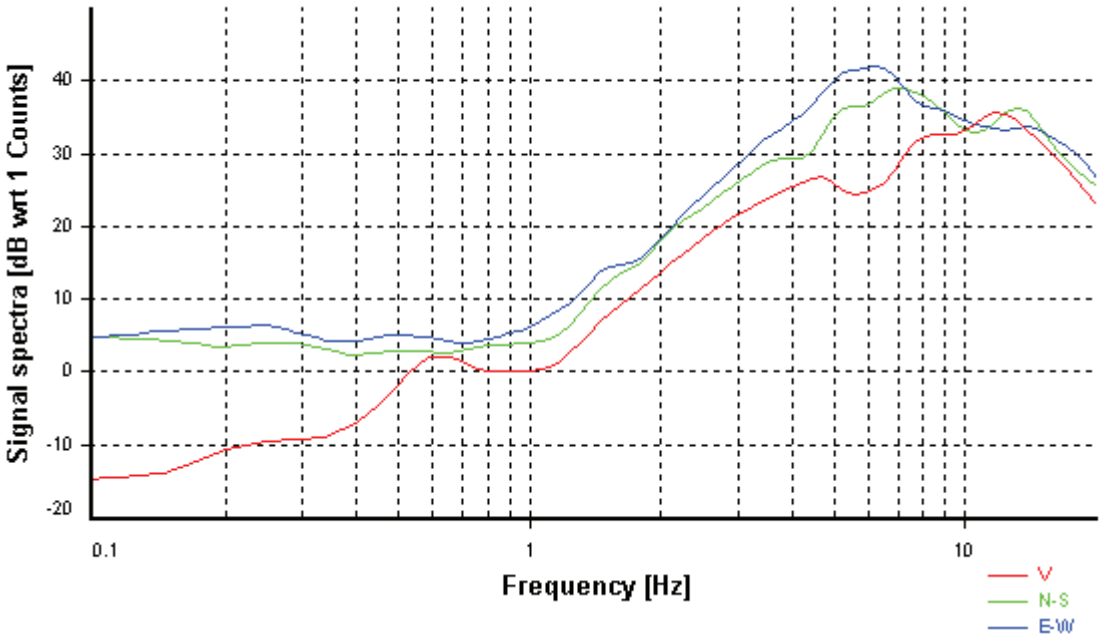
Smoothing: Proportional triangular (Bandwidth coefficient = 15)

Instrumental correction: Disabled

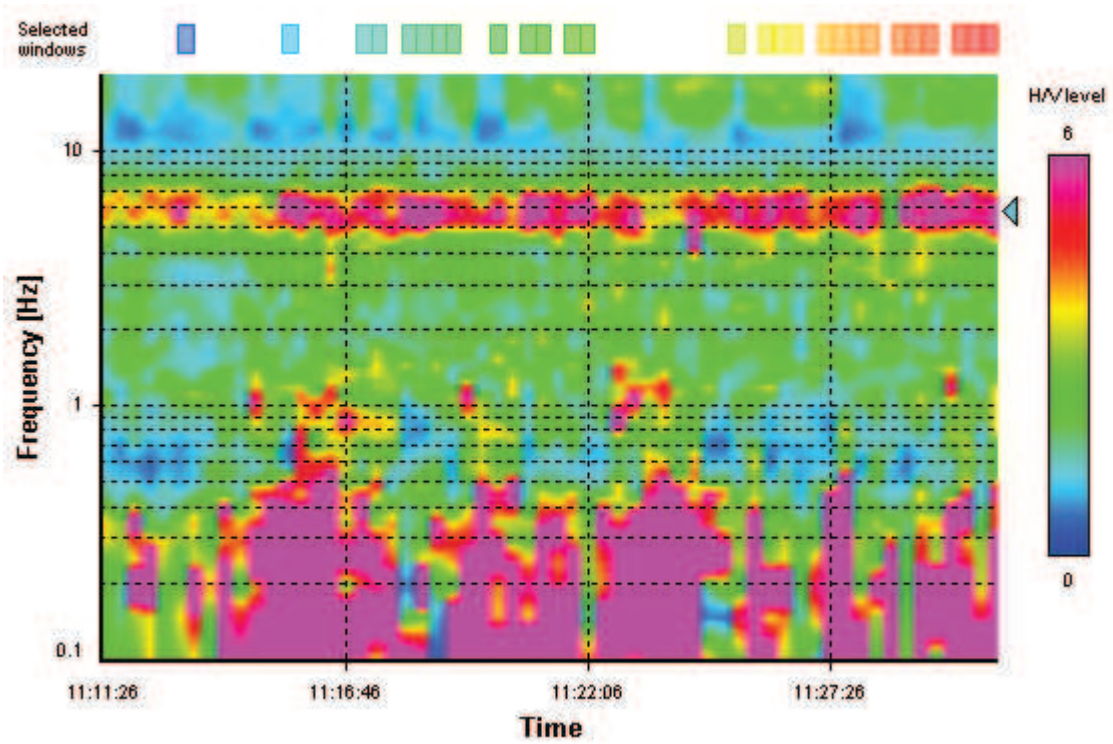
HVSR average



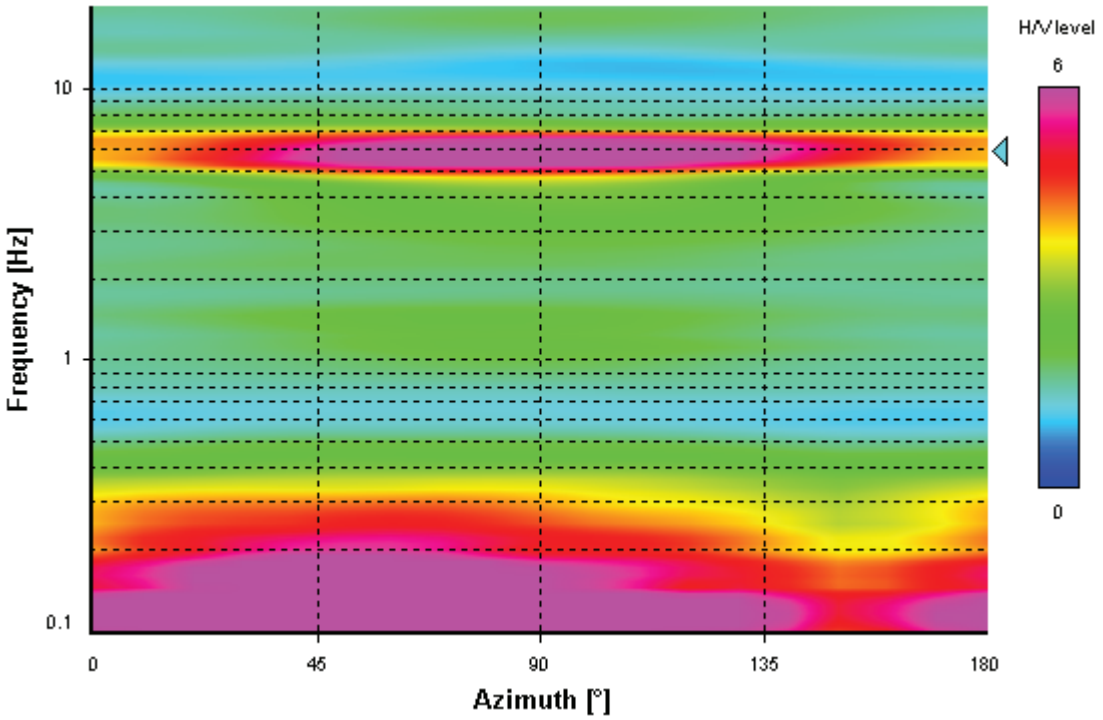
Signal spectra average



HVSR time-frequency analysis (20 seconds windows)



HVSR directional analysis



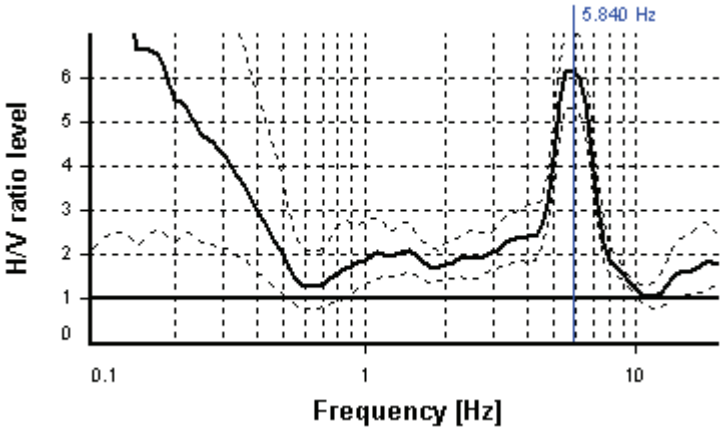
SESAME CRITERIA

Selected f_0 frequency

5.840 Hz

A_0 amplitude = *6.199*

Average f_0 = *5.837 ± 0.324*



HVSR curve reliability criteria		
$f_0 > 10 / L_w$	27 valid windows (length > 1.71 s) out of 27	**OK**
$n_c(f_0) > 200$	3153.85 > 200	**OK**
$\sigma_A(f) < 2$ for $0.5f_0 < f < 2f_0$	Exceeded 0 times in 25	**OK**
HVSR peak clarity criteria		
$\exists\ f^-$ in $[f_0/4, f_0] \mid A_{H/V}(f^-) < A_0/2$	4.46924 Hz	**OK**
$\exists\ f^+$ in $[f_0, 4f_0] \mid A_{H/V}(f^+) < A_0/2$	7.6324 Hz	**OK**
$A_0 > 2$	6.2 > 2	**OK**
$f_{peak}[A_{H/V}(f) \pm \sigma_A(f)] = f_0 \pm 5\%$	0% <= 5%	**OK**
$\sigma_f < \varepsilon(f_0)$	0.32446 >= 0.29202	**NO**
$\sigma_A(f_0) < \theta(f_0)$	1.16581 < 1.58	**OK**
Overall criteria fulfillment		**OK**