11g

report delle elaborazioni delle misure HV

COMUNE DI POGGIBONSI

PIANO STRUTTURALE

APPROVAZIONE

Novembre 2013

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Sociolab - *Partecipazione*

INDICE

Misura 1

Date: 9 8 2012

Time: 11 59

Dataset: 02-Pancole-1.SAF

Sampling frequency (Hz): 128

Window length (sec): 20

Length of analysed temporal sequence (min): 25.1

Tapering (%): 10

==========

In the following the results considering the data in the 0.5-20.0Hz frequency range

Peak frequency (Hz): 1.8 (±7.5)

Peak HVSR value: 1.5 (±0.3)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 1.8 > 0.5 (OK)

#2. [nc > 200]: 5497 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: (NO)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 5.2Hz (OK)

#3. [A0 > 2]: 1.5 < 2 (NO)

#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

#5. [sigmaf < epsilon(f0)]: 7.538 > 0.184 (NO)

#6. [sigmaA(f0) < theta(f0)]: 0.334 < 1.78 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

show data | reset

step#1 (optional) - decimate

128Hz | new frequency | resample

step#2 - H/V computation

remove events | both Rad. & Tr. | clean axes

20 | window length (s)

10 | tapering (%)

10% | spectral smoothing (triangular window)

☐ show particle motion (raw data)

☑ full ouput | compute

step#3a (optional) - directivity analysis

compute | max freq: 32 Hz

step#3b (optional) - directivity over time

directivity in time | time step: 60 s

www.winmasw.com

save- option#1: save HVSR as it is

Save H/V from 0.25 to 64 Hz

save HV curve (as it is)

save - option#2: picking H/V curve

pick HV curve | save picked HV

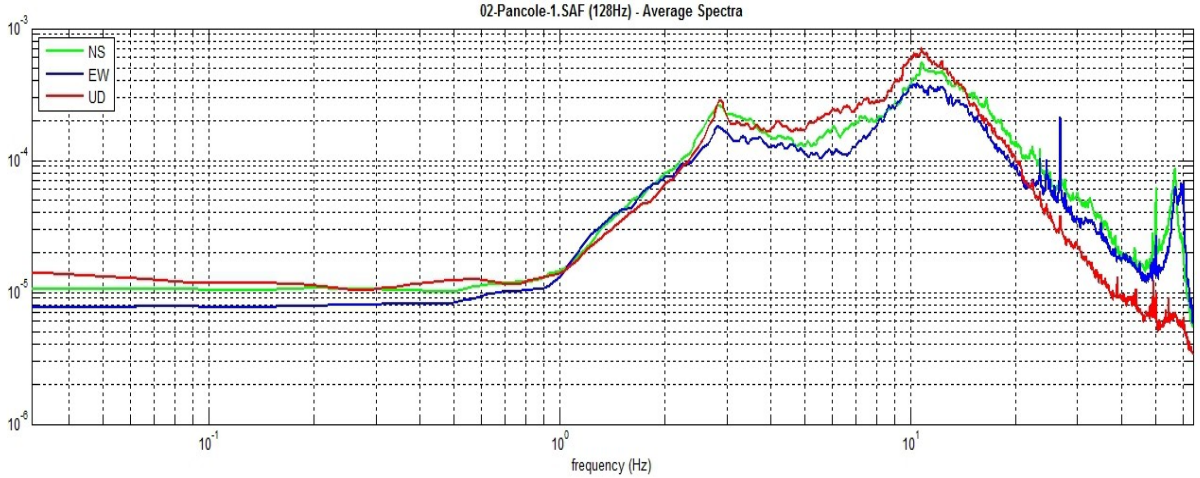
quick analysis (f=Vs/4H)

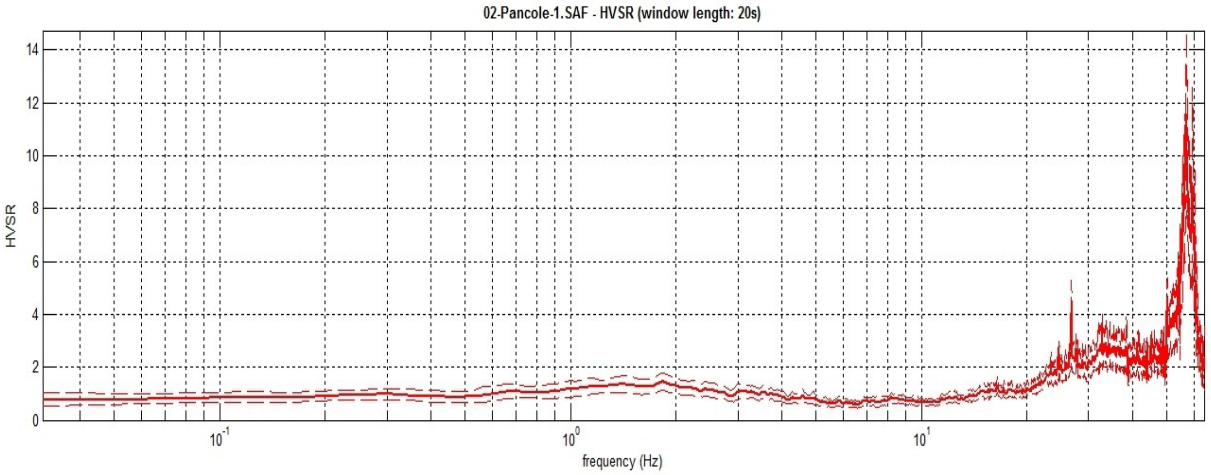
180 | average Vs (m/s) (from surface to bedrock)

20 | depth of the bedrock (m)

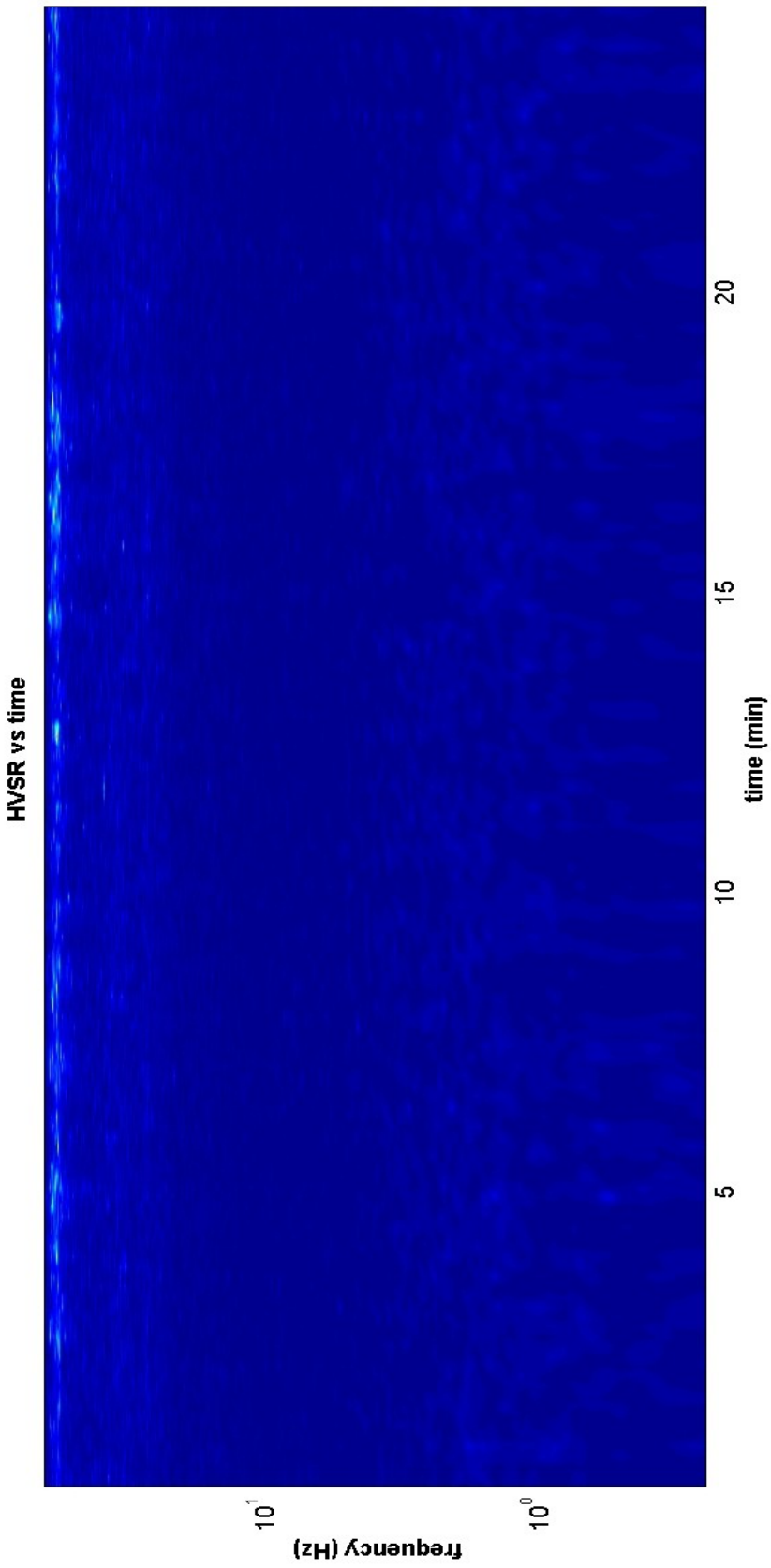
1000 | Vs of the bedrock

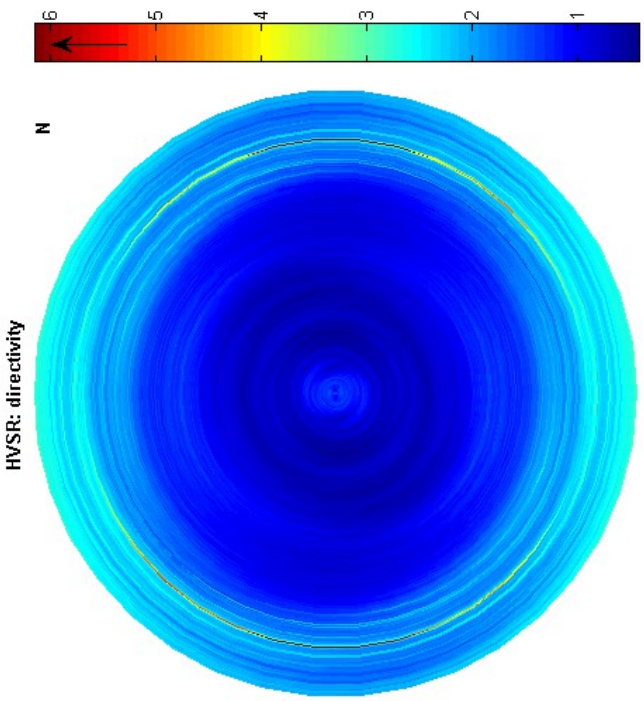
clean | compute

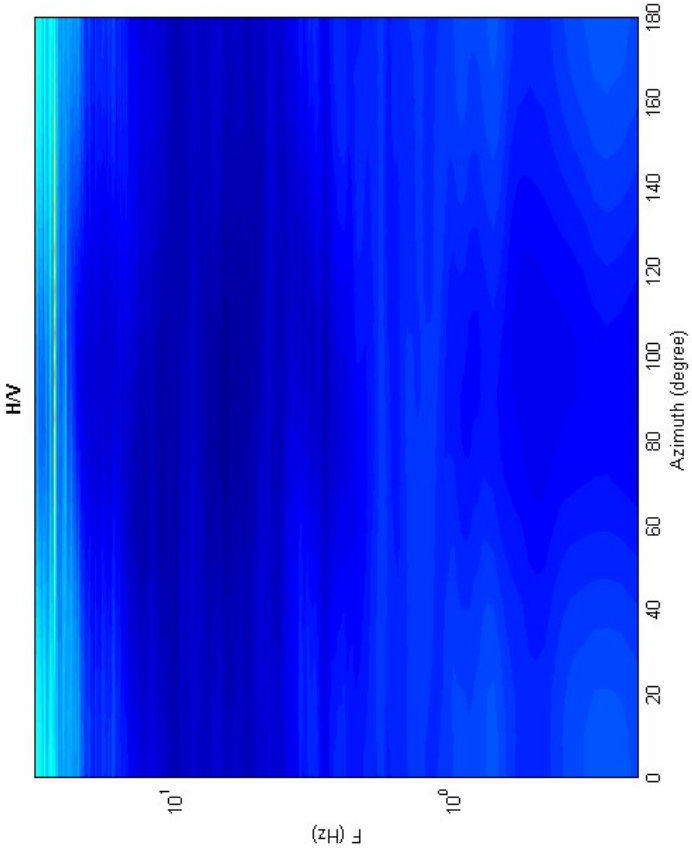




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
time (min)
5
10
15
20
frequency (Hz)
10^{1}
10^{0}


HVSR: directivity
N
6
5
4
3
2
1


H/V
F (Hz)
10^{1}
10^{0}
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)

Misura 2

Date: 10 8 2012

Time: 12 33

Dataset: 15-gavignano-1.SAF

Sampling frequency (Hz): 128

Window length (sec): 50

Length of analysed temporal sequence (min): 25.8

Tapering (%): 15

==========

In the following the results considering the data in the 0.2-1.0Hz frequency range

Peak frequency (Hz): 0.6 (±0.1)

Peak HVSR value: 3.1 (±0.6)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 0.6 > 0.2 (OK)

#2. [nc > 200]: 1829 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: yes, at frequency 0.3Hz (OK)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 0.9Hz (OK)

#3. [A0 > 2]: 3.1 > 2 (OK)

#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

#5. [sigmaf < epsilon(f0)]: 0.133 > 0.091 (NO)

#6. [sigmaA(f0) < theta(f0)]: 0.673 < 2 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

show data | reset

step#1 (optional) - decimate

128Hz | new frequency | resample

step#2 - H/V computation

remove events | both Rad. & Tr. | clean axes

50 window length (s)

15 tapering (%)

2% spectral smoothing (triangular window)

☐ show particle motion (raw data)

☑ full ouput | compute

step#3a (optional) - directivity analysis

compute | max freq: 32 Hz

step#3b (optional) - directivity over time

directivity in time | time step: 60 s

www.winmasw.com

save- option#1: save HVSR as it is

Save H/V from 0.25 to 64 Hz

save HV curve (as it is)

save - option#2: picking H/V curve

pick HV curve | save picked HV

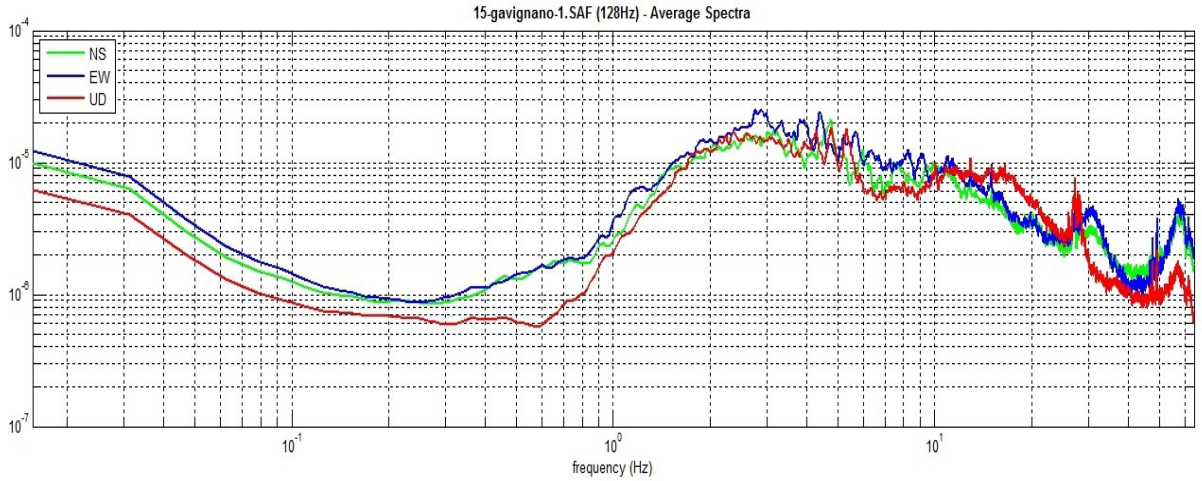
quick analysis (f=Vs/4H)

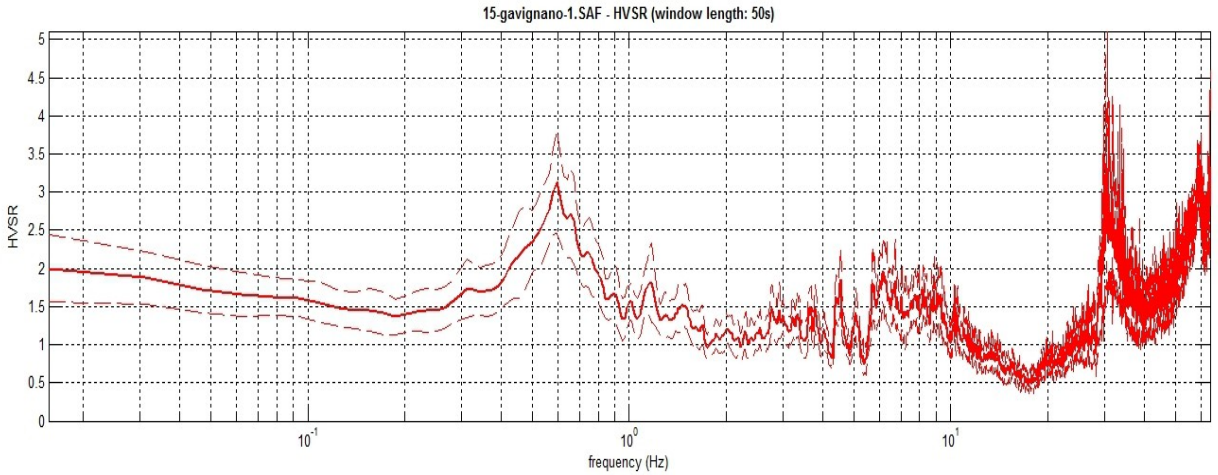
180 average Vs (m/s) (from surface to bedrock)

20 depth of the bedrock (m)

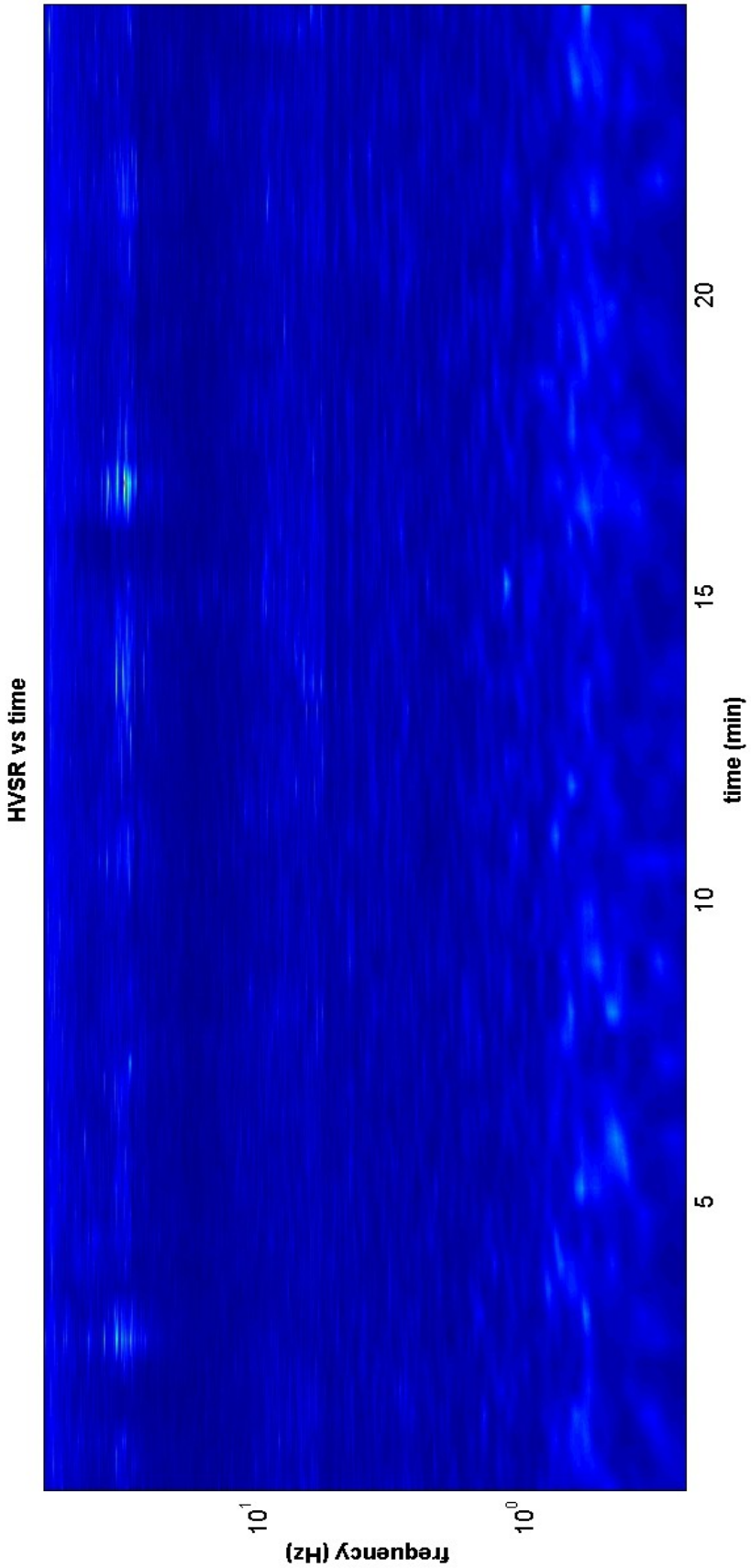
1000 Vs of the bedrock

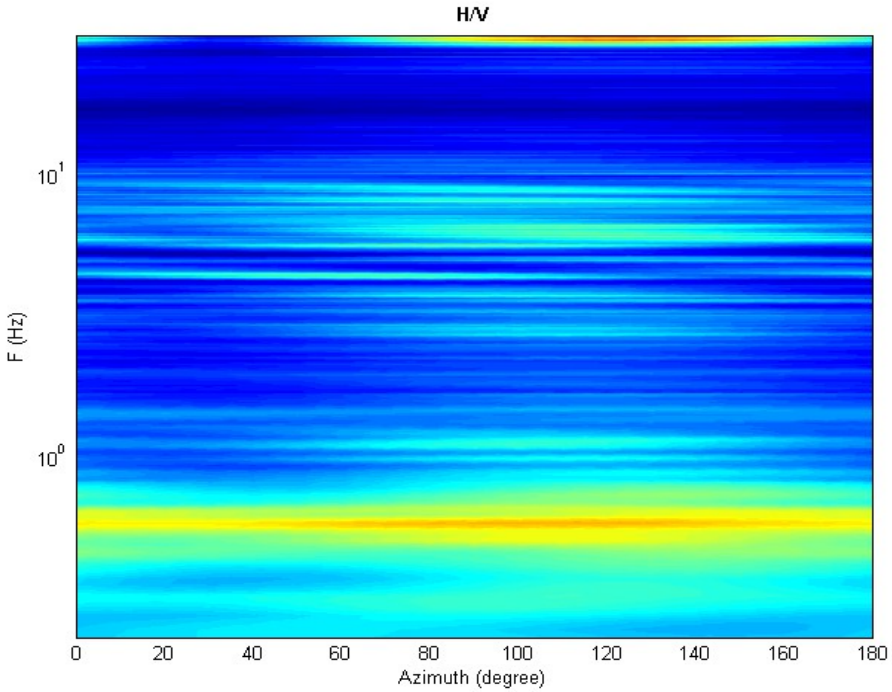
clean | compute

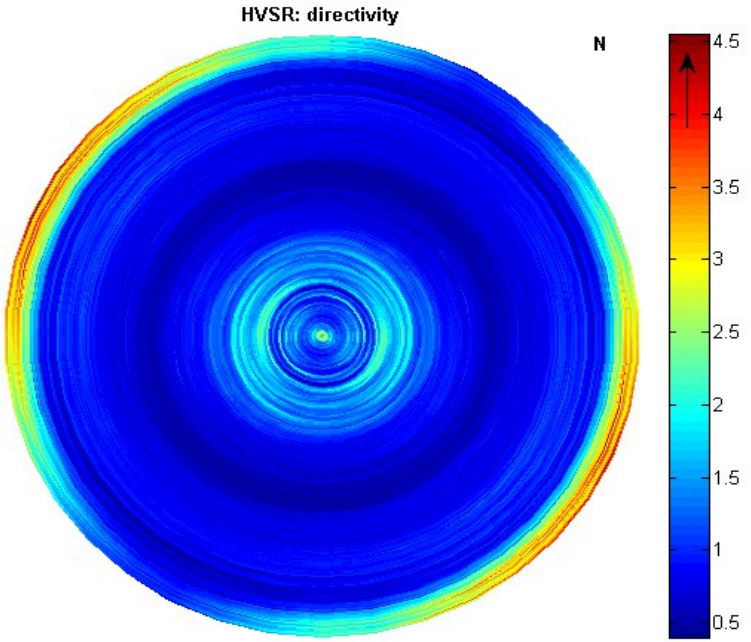




To model the HVSR (also jointly with MASW or ReMiESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^1
10^0
5
10
15
20
time (min)


H/V
F (Hz)
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
4.5
4
3.5
3
2.5
2
1.5
1
0.5

Misura 3

Date: 9 8 2012

Time: 11 42

Dataset: 01-Pancole-1.SAF

Sampling frequency (Hz): 128

Window length (sec): 20

Length of analysed temporal sequence (min): 25.0

Tapering (%): 10

==========

In the following the results considering the data in the 0.5-20.0Hz frequency range

Peak frequency (Hz): 20.0 (±7.1)

Peak HVSR value: 1.5 (±0.4)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 20.0 > 0.5 (OK)

#2. [nc > 200]: 59321 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: yes, at frequency 11.8Hz (OK)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: (NO)

#3. [A0 > 2]: 1.5 < 2 (NO)

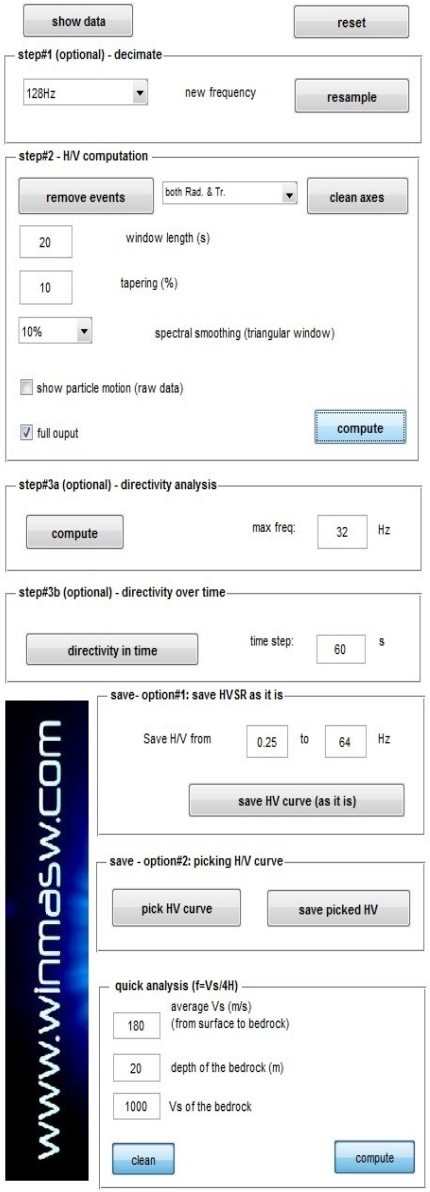
#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

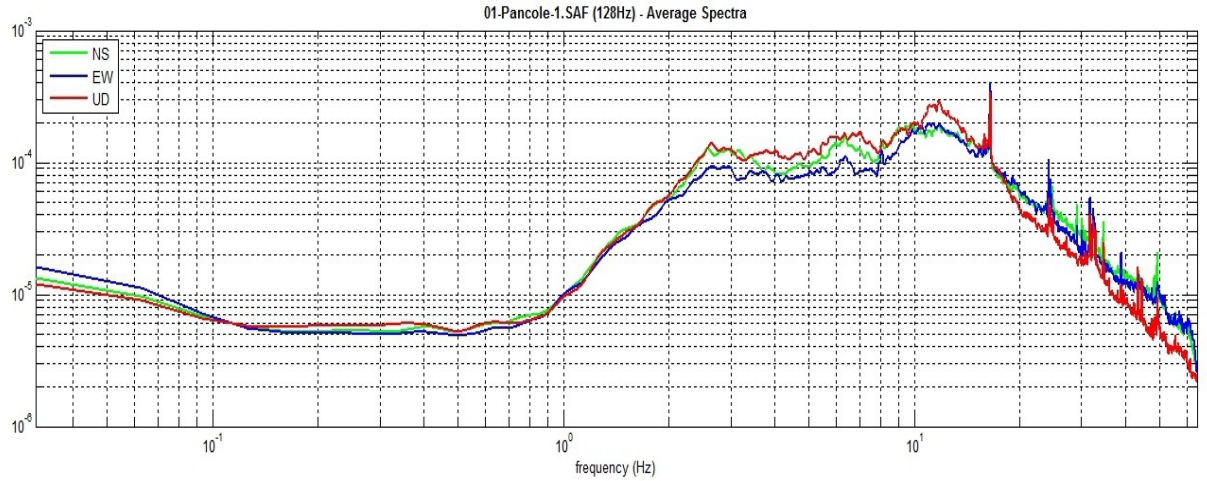
#5. [sigmaf < epsilon(f0)]: 7.098 > 1.002 (NO)

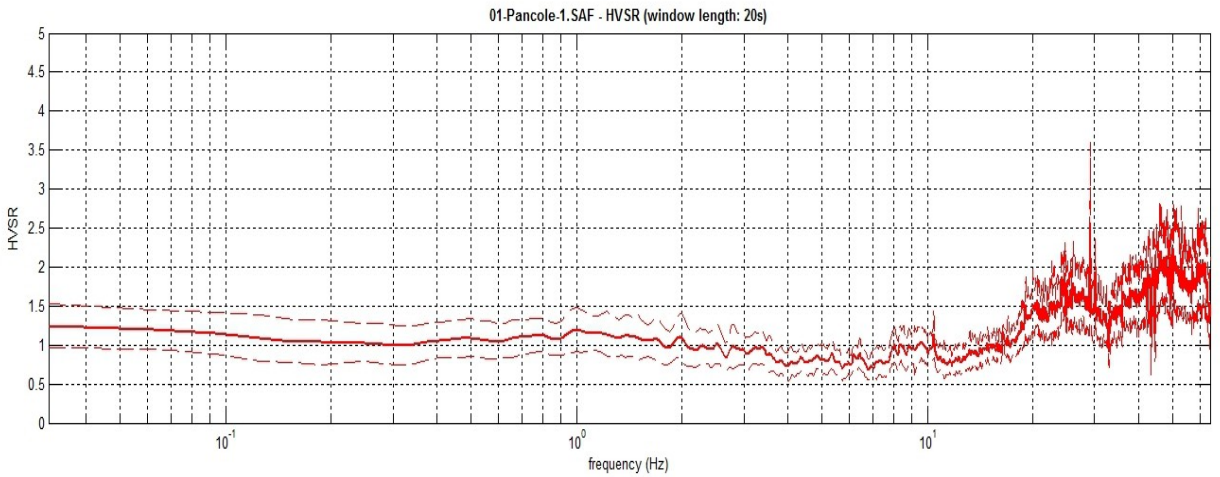
#6. [sigmaA(f0) < theta(f0)]: 0.442 < 1.58 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

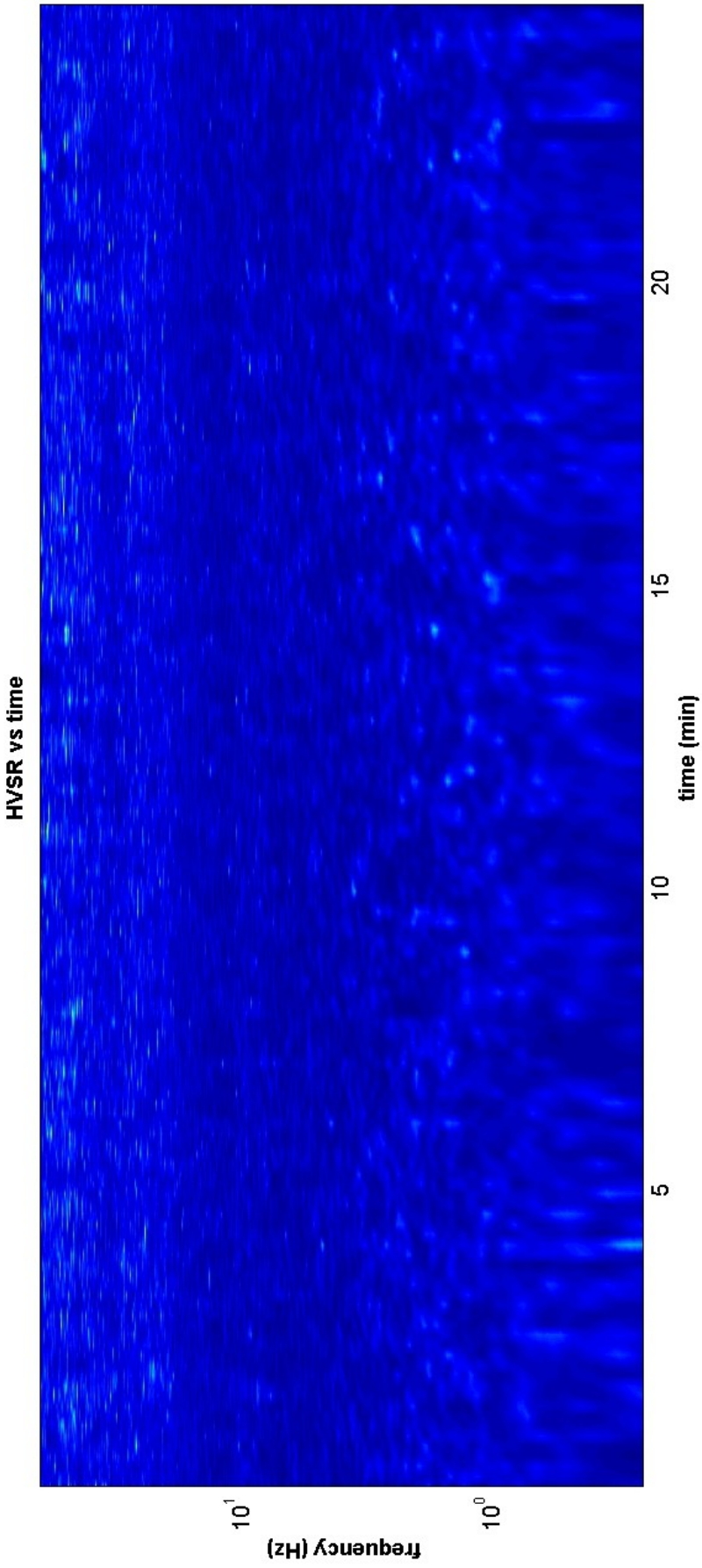
Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

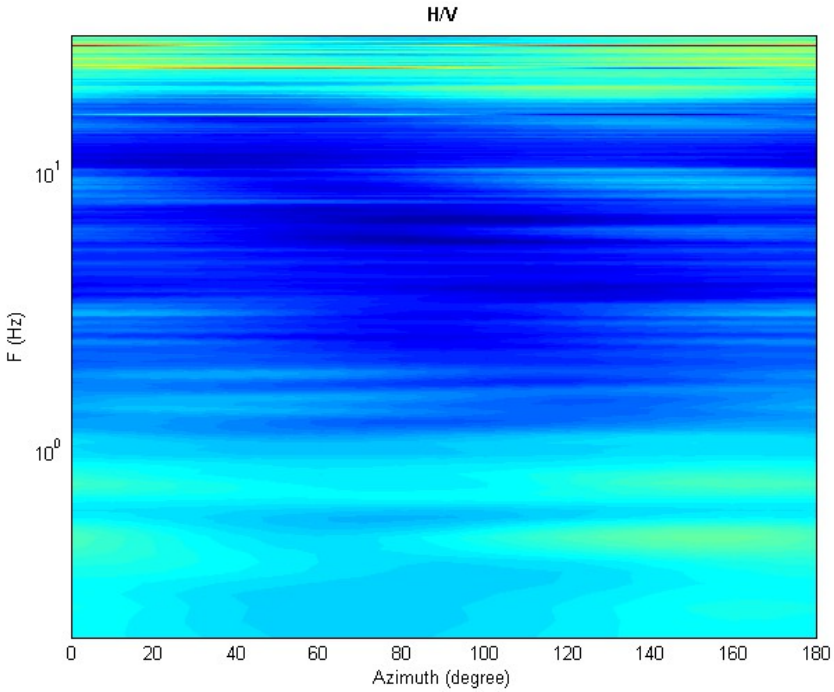


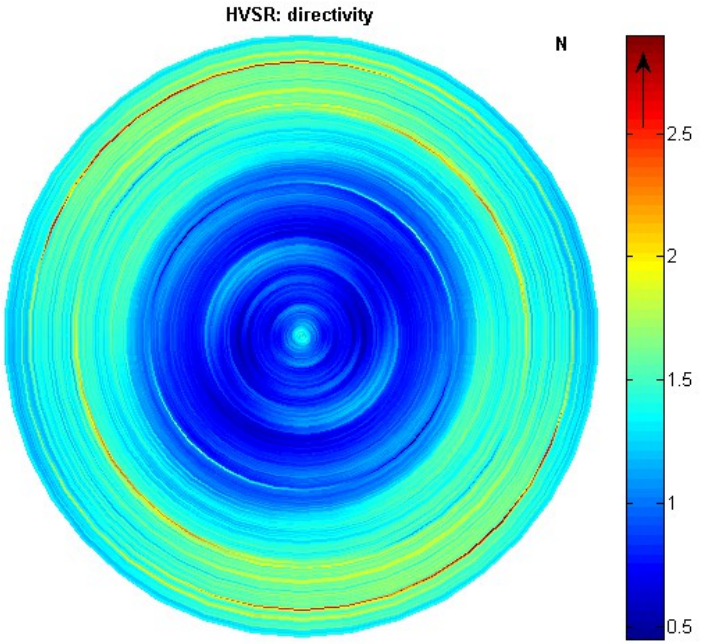




To model the HVSR (also jointly with MASW or ReMiESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^{0}
10^{1}
5
10
15
20
time (min)


H/V
F (Hz)
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
2.5
2
1.5
1
0.5

Misura 4

Date: 9 8 2012

Time: 16 49

Dataset: 08-Case Gucci-1.SAF

Sampling frequency (Hz): 128

Window length (sec): 40

Length of analysed temporal sequence (min): 25.8

Tapering (%): 10

==========

In the following the results considering the data in the 0.5-13.0Hz frequency range

Peak frequency (Hz): 0.7 (±3.8)

Peak HVSR value: 1.2 (±0.2)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 0.7 > 0.25 (OK)

#2. [nc > 200]: 2043 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: (NO)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: (NO)

#3. [A0 > 2]: 1.2 < 2 (NO)

#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

#5. [sigmaf < epsilon(f0)]: 3.816 > 0.101 (NO)

#6. [sigmaA(f0) < theta(f0)]: 0.170 < 2 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

show data | reset

step#1 (optional) - decimate

128Hz | new frequency | resample

step#2 - H/V computation

remove events | both Rad. & Tr. | clean axes

40 window length (s)

10 tapering (%)

10% spectral smoothing (triangular window)

☐ show particle motion (raw data)

☑ full ouput | compute

step#3a (optional) - directivity analysis

compute | max freq: 32 Hz

step#3b (optional) - directivity over time

directivity in time | time step: 60 s

www.winmasw.com

save- option#1: save HVSR as it is

Save H/V from 0.25 to 64 Hz

save HV curve (as it is)

save - option#2: picking H/V curve

pick HV curve | save picked HV

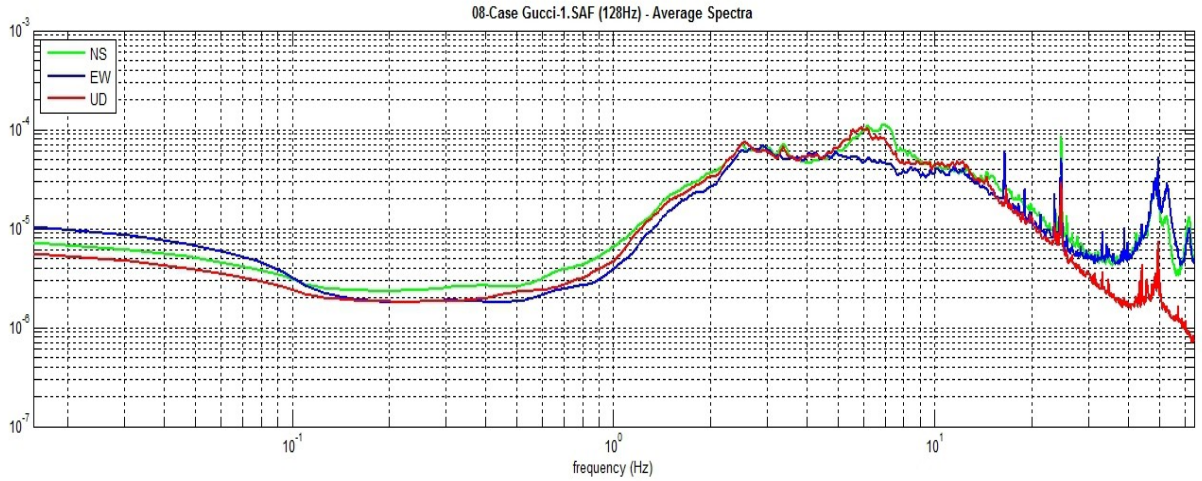
quick analysis (f=Vs/4H)

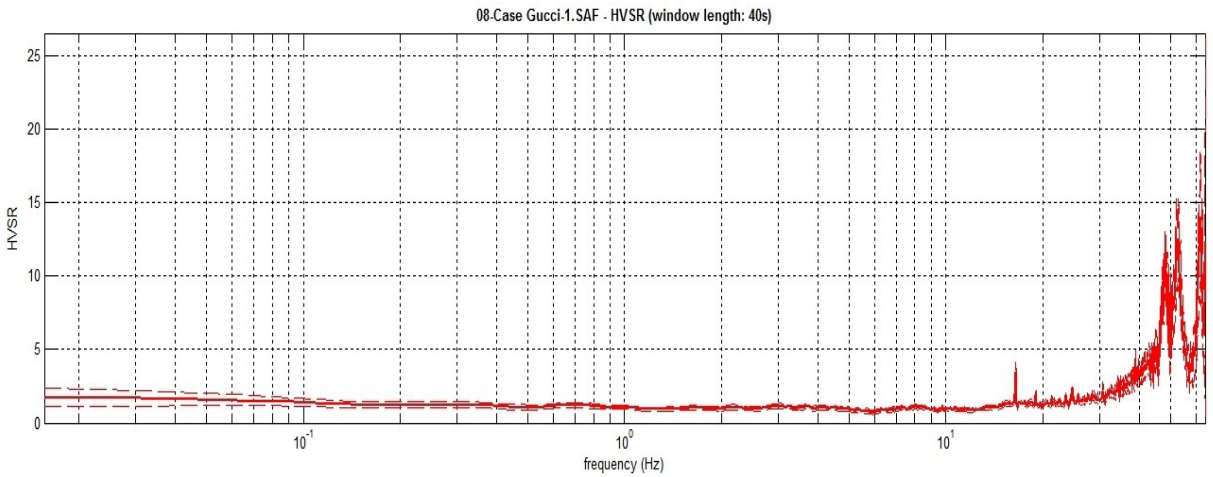
180 average Vs (m/s) (from surface to bedrock)

20 depth of the bedrock (m)

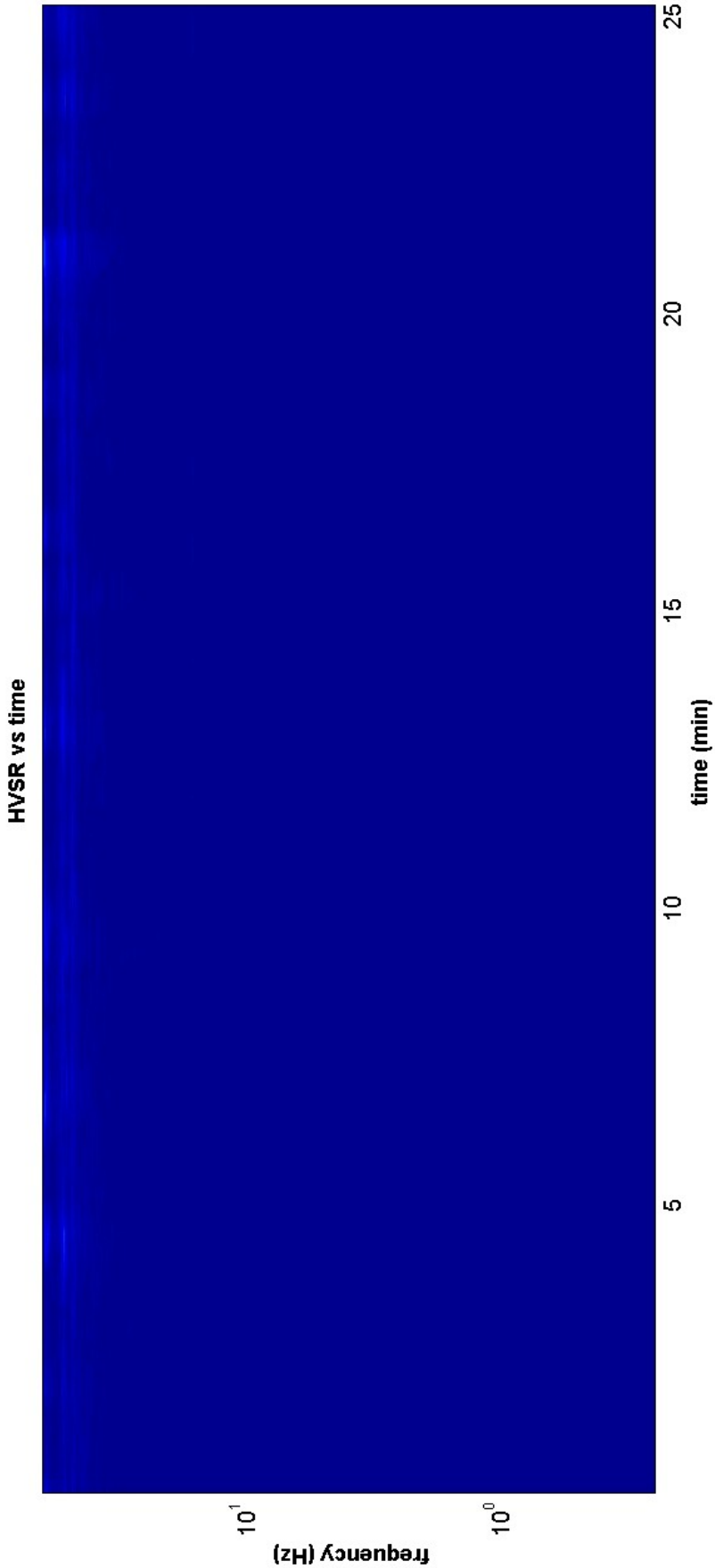
1000 Vs of the bedrock

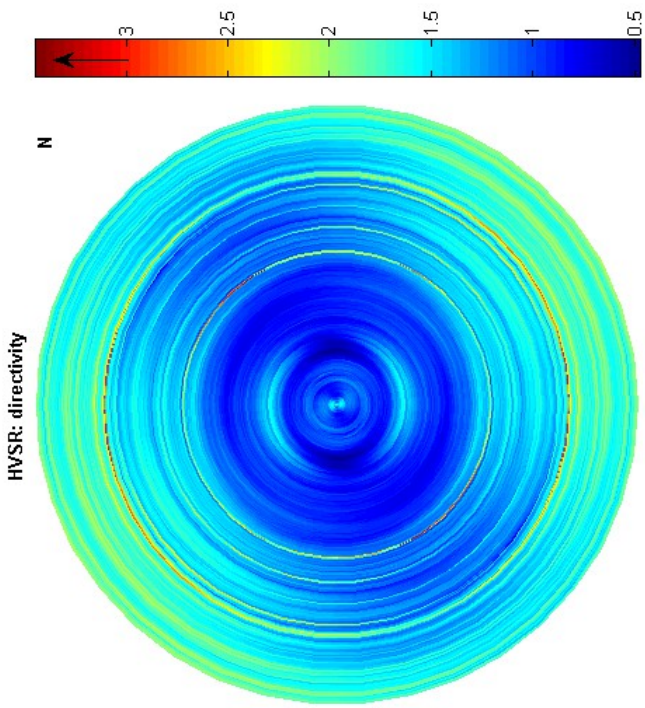
clean | compute

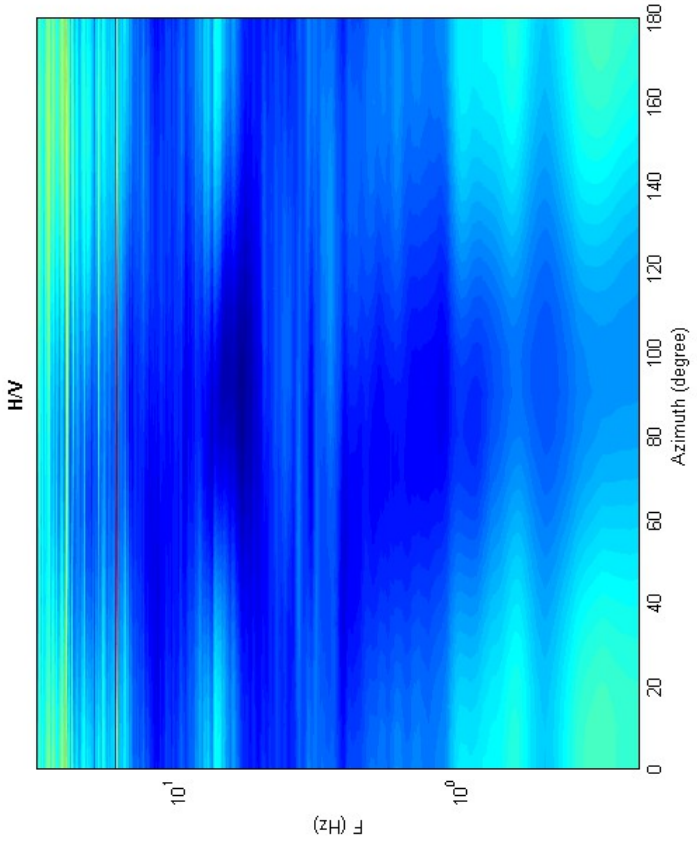




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^1
10^0
5
10
15
20
25
time (min)


HVSR: directivity
N
3
2.5
2
1.5
1
0.5


H/V
F (Hz)
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)

Misura 5

Date: 9 8 2012

Time: 16 43

Dataset: 07-casegucci-1.SAF

Sampling frequency (Hz): 128

Window length (sec): 40

Length of analysed temporal sequence (min): 24.8

Tapering (%): 10

==========

In the following the results considering the data in the 0.5-20.0Hz frequency range

Peak frequency (Hz): 19.9 (±3.7)

Peak HVSR value: 2.2 (±0.3)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 19.9 > 0.25 (OK)

#2. [nc > 200]: 58004 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: yes, at frequency 12.8Hz (OK)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: (NO)

#3. [A0 > 2]: 2.2 > 2 (OK)

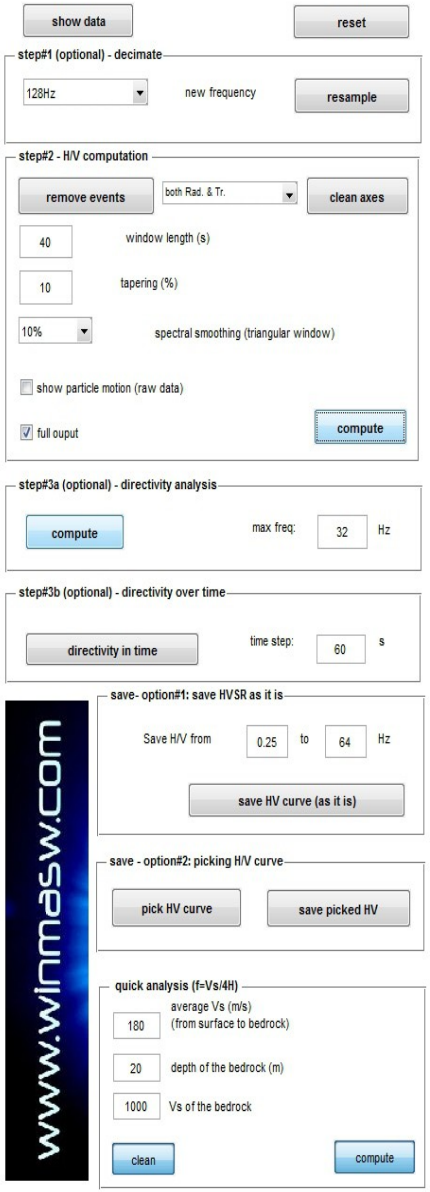
#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

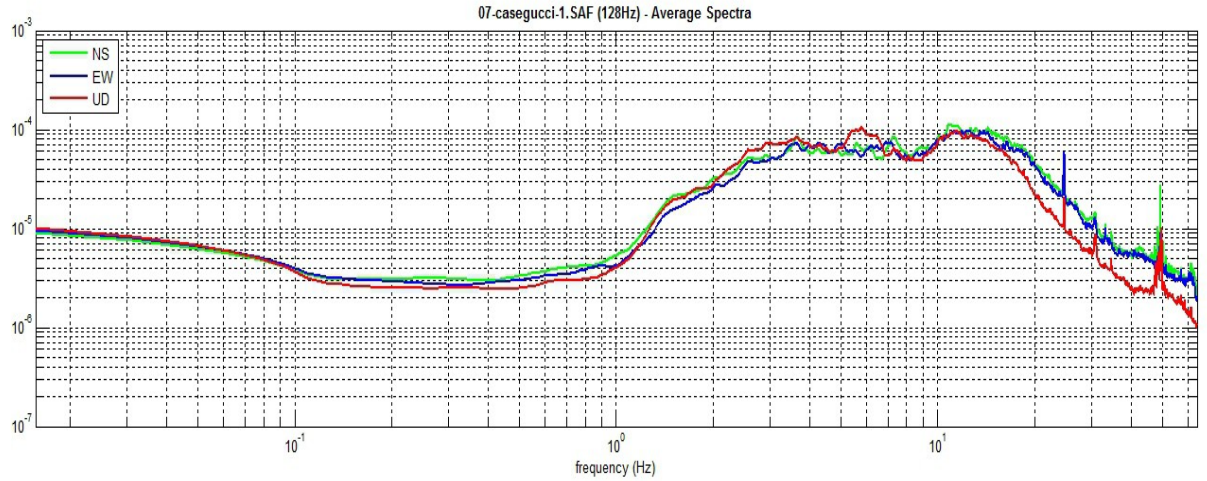
#5. [sigmaf < epsilon(f0)]: 3.703 > 0.993 (NO)

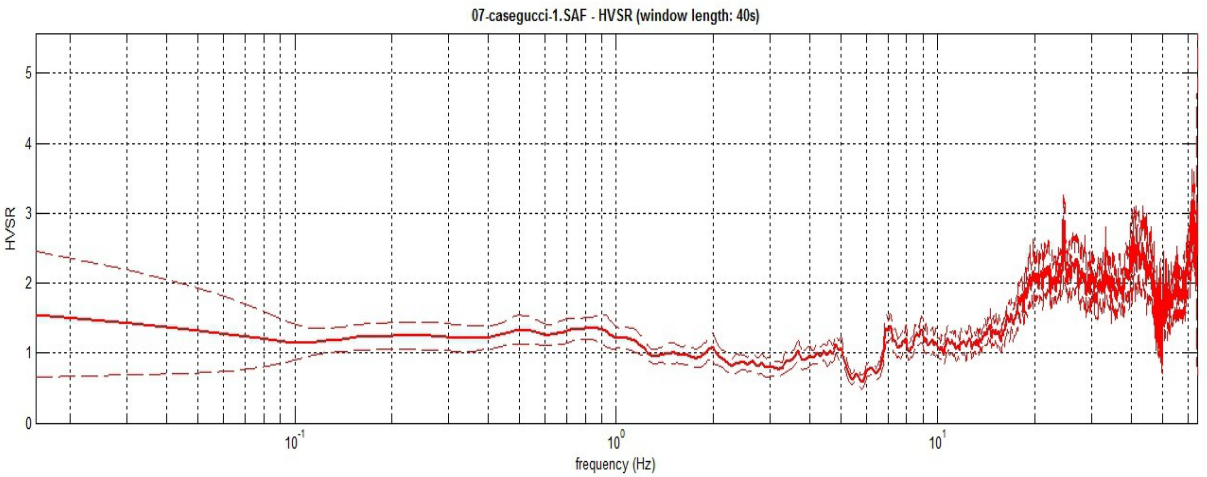
#6. [sigmaA(f0) < theta(f0)]: 0.359 < 1.58 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

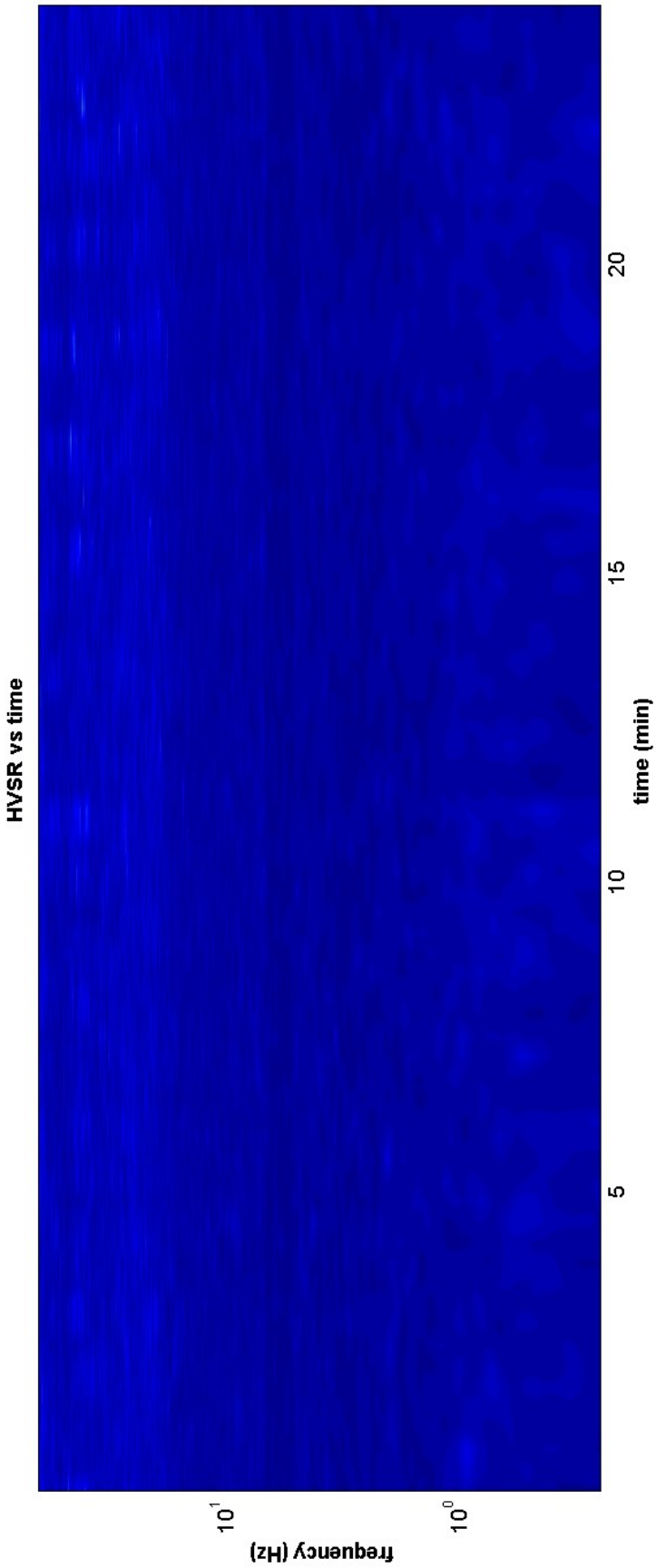
Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

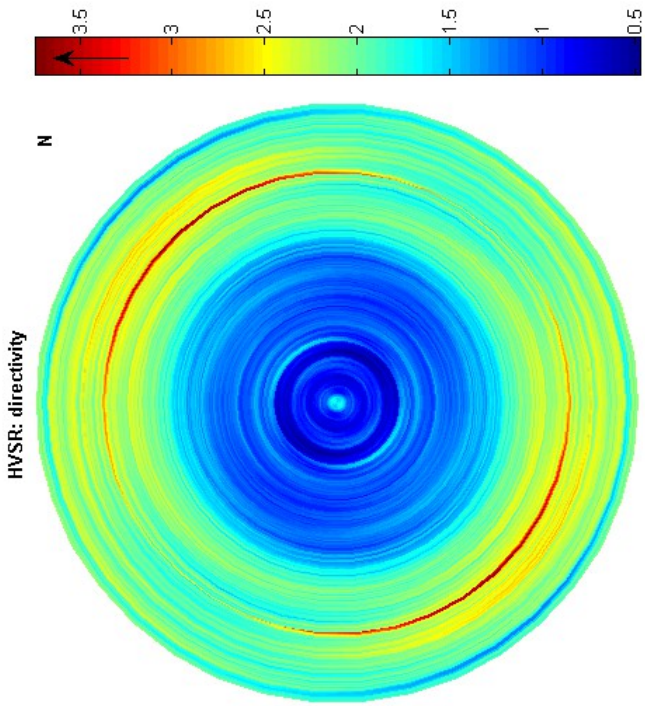


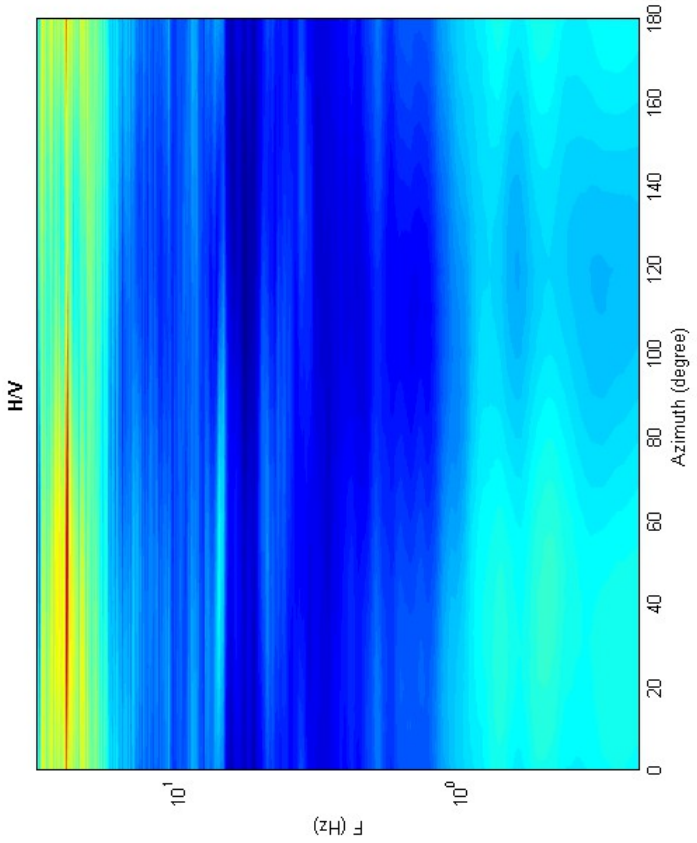




To model the HVSR (also jointly with MASW or ReMiESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
time (min)
5
10
15
20
frequency (Hz)
10^{0}
10^{1}


HVSR: directivity
N
3.5
3
2.5
2
1.5
1
0.5


H/V
F (Hz)
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)

Misura 6

Date: 9 8 2012

Time: 12 38

Dataset: 03-lame di fondo-2.SAF

Sampling frequency (Hz): 128

Window length (sec): 30

Length of analysed temporal sequence (min): 19.4

Tapering (%): 15

==========

In the following the results considering the data in the 1.0-10.0Hz frequency range

Peak frequency (Hz): 3.5 (±1.1)

Peak HVSR value: 3.5 (±0.8)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 3.5 > 0.33333 (OK)

#2. [nc > 200]: 8055 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: yes, at frequency 1.9Hz (OK)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 6.2Hz (OK)

#3. [A0 > 2]: 3.5 > 2 (OK)

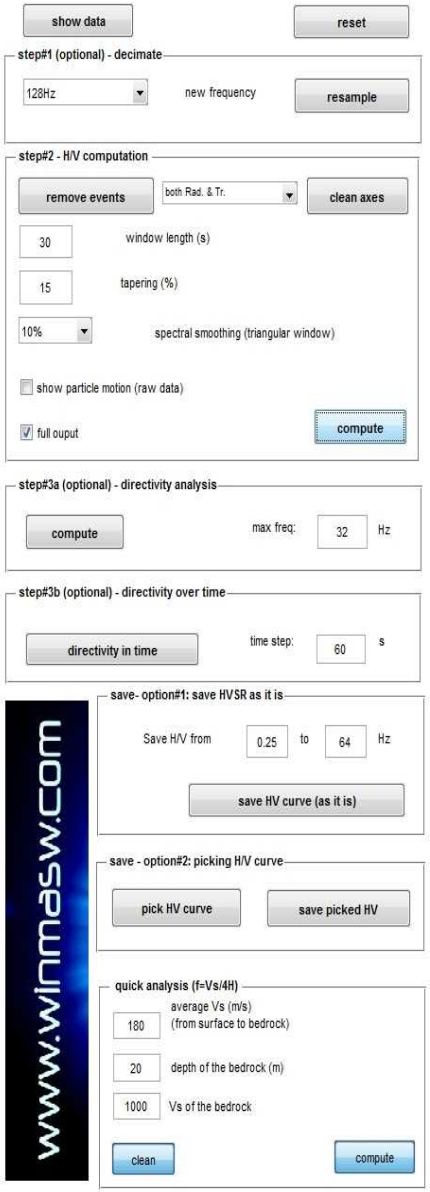
#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

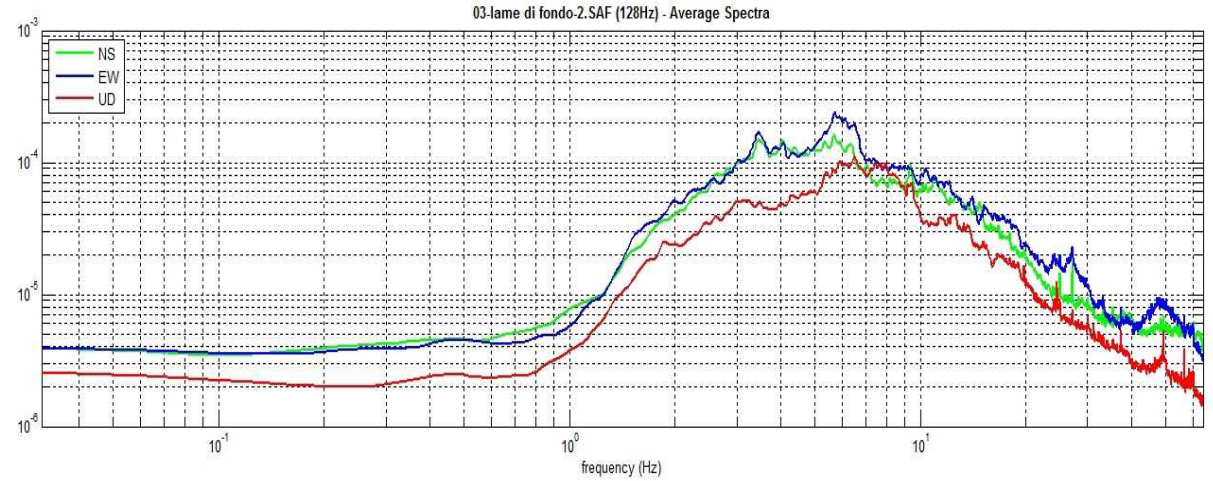
#5. [sigmaf < epsilon(f0)]: 1.119 > 0.177 (NO)

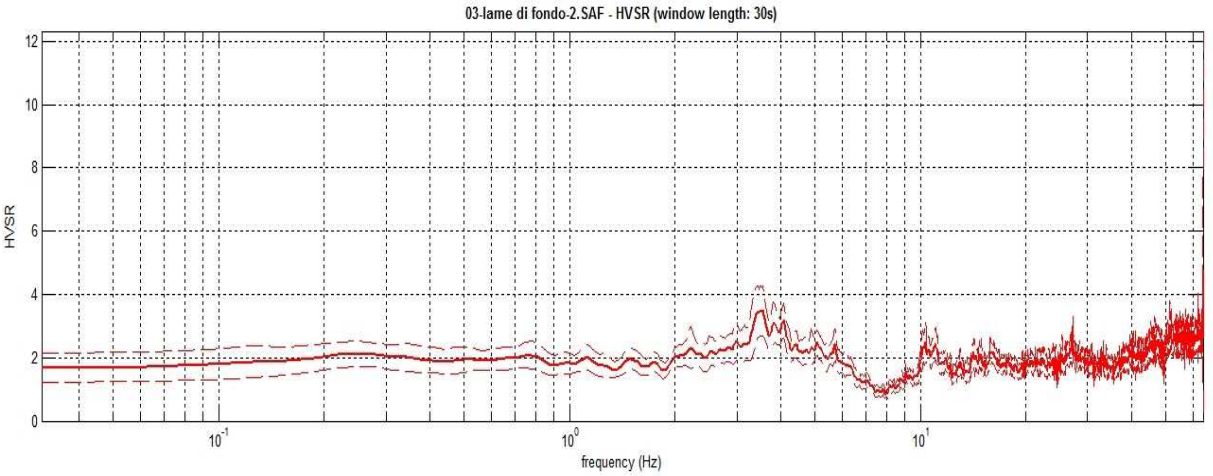
#6. [sigmaA(f0) < theta(f0)]: 0.788 < 1.58 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

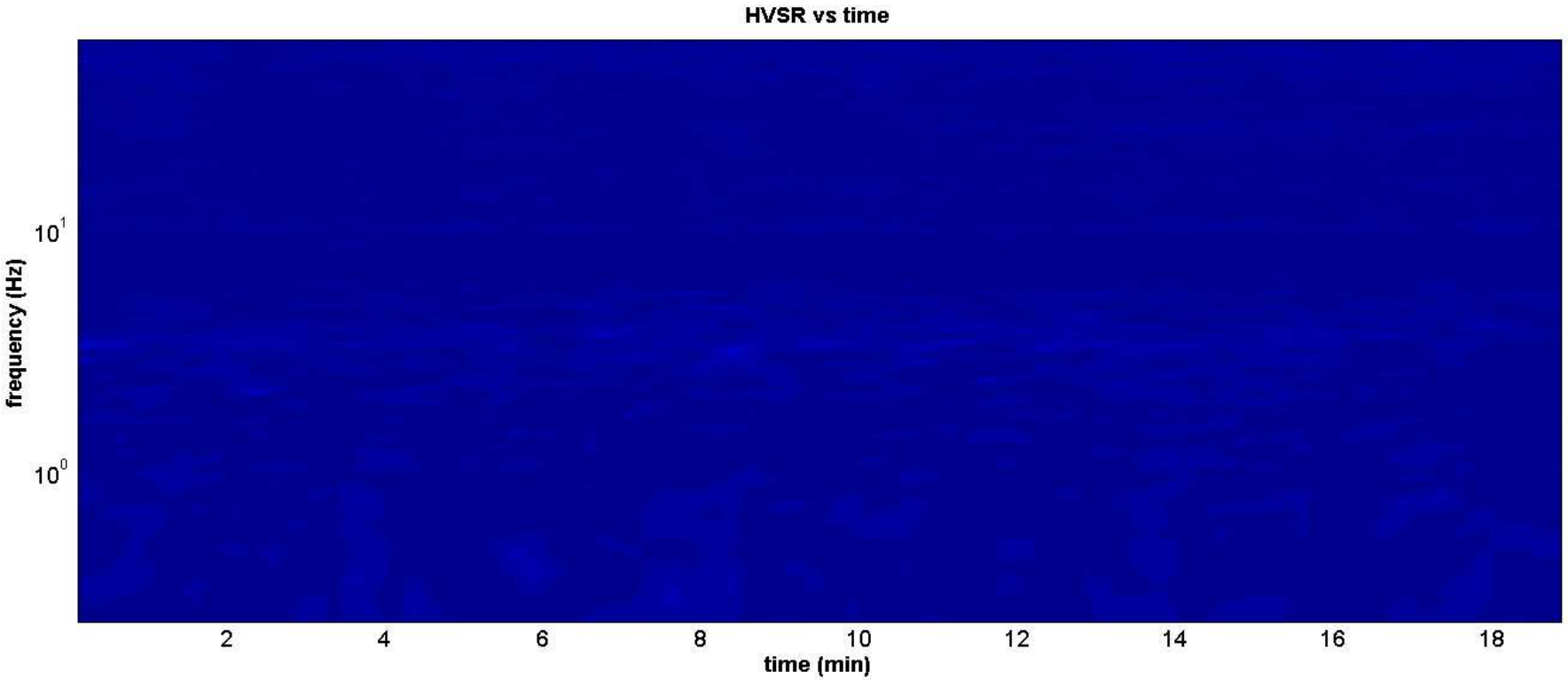
Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

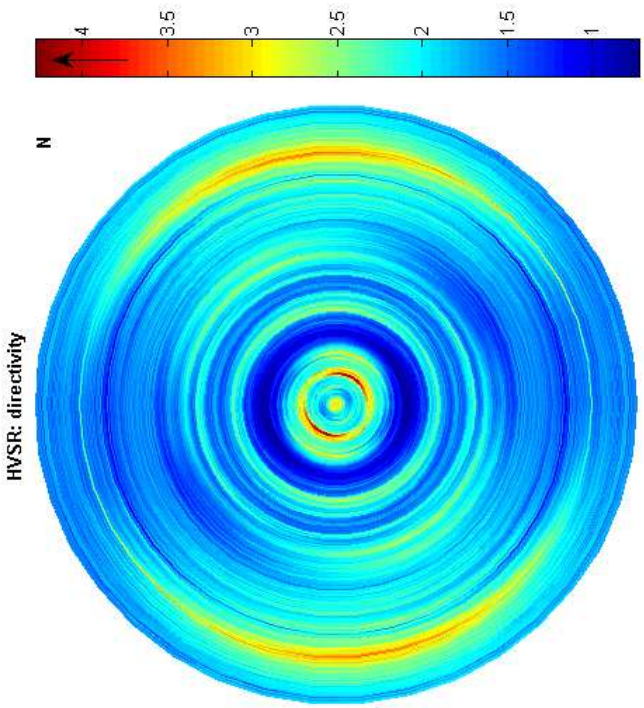


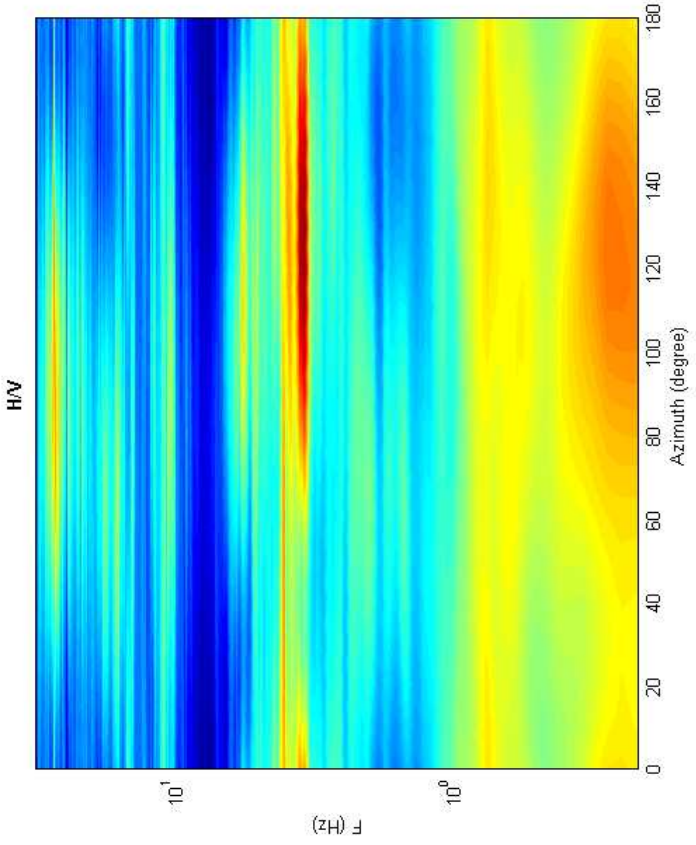




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^1
10^0
2
4
6
8
10
12
14
16
18
time (min)


HVSR: directivity
N
4
3.5
3
2.5
2
1.5
1


H/V
F (Hz)
10^{-1}
10^{0}
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)

Misura 7

Date: 17 8 2012

Time: 13 20

Dataset: 36-bixio-1.SAF

Sampling frequency (Hz): 128

Window length (sec): 70

Length of analysed temporal sequence (min): 24.5

Tapering (%): 10

==========

In the following the results considering the data in the 0.1-1.2Hz frequency range

Peak frequency (Hz): 0.3 (±0.1)

Peak HVSR value: 2.6 (±0.3)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 0.3 > 0.14286 (OK)

#2. [nc > 200]: 788 > 200 (OK)

#3. [f0<0.5Hz; sigmaA(f) < 3 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: yes, at frequency 0.2Hz (OK)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 1.1Hz (OK)

#3. [A0 > 2]: 2.6 > 2 (OK)

#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

#5. [sigmaf < epsilon(f0)]: 0.102 > 0.056 (NO)

#6. [sigmaA(f0) < theta(f0)]: 0.342 < 2.5 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

show data | reset

step#1 (optional) - decimate

128Hz | new frequency | resample

step#2 - H/V computation

remove events | both Rad. & Tr. | clean axes

70 window length (s)

10 tapering (%)

10% spectral smoothing (triangular window)

☐ show particle motion (raw data)

☑ full ouput | compute

step#3a (optional) - directivity analysis

compute | max freq: 32 Hz

step#3b (optional) - directivity over time

directivity in time | time step: 60 s

www.winmasw.com

save- option#1: save HVSR as it is

Save H/V from 0.25 to 64 Hz

save HV curve (as it is)

save - option#2: picking H/V curve

pick HV curve | save picked HV

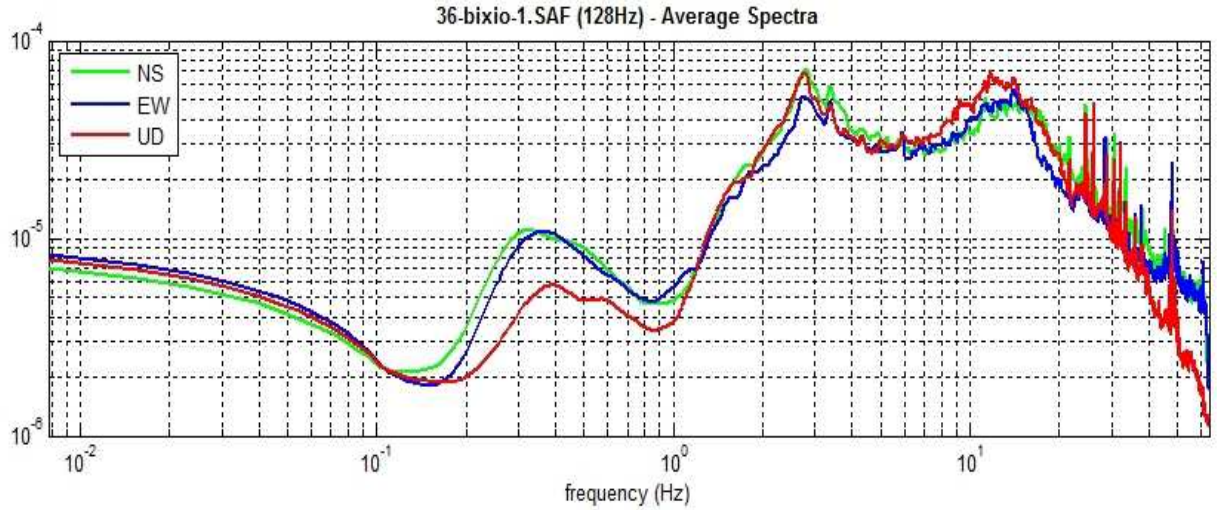
quick analysis (f=Vs/4H)

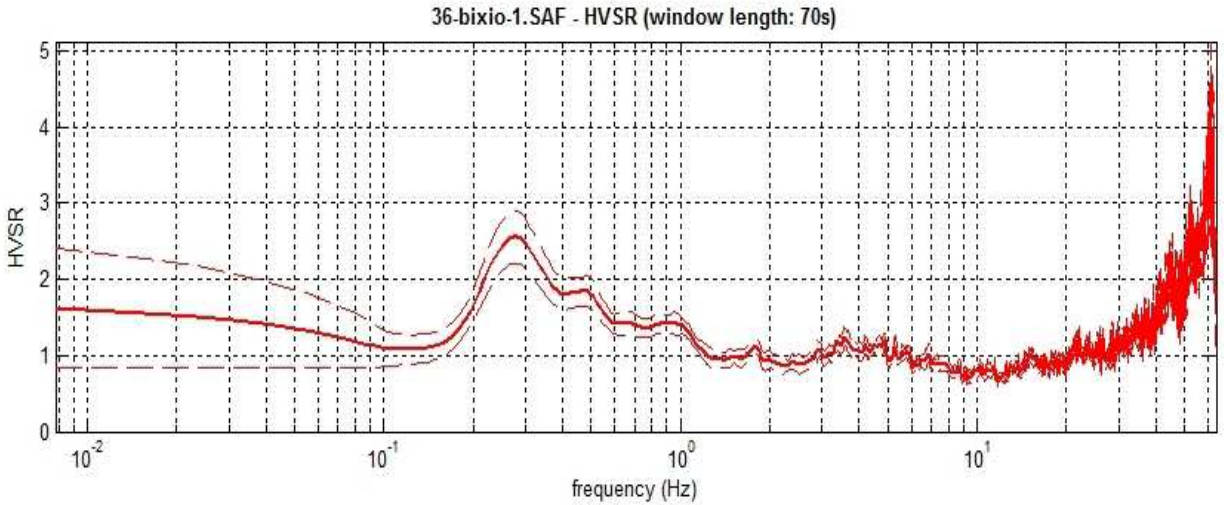
180 average Vs (m/s) (from surface to bedrock)

20 depth of the bedrock (m)

1000 Vs of the bedrock

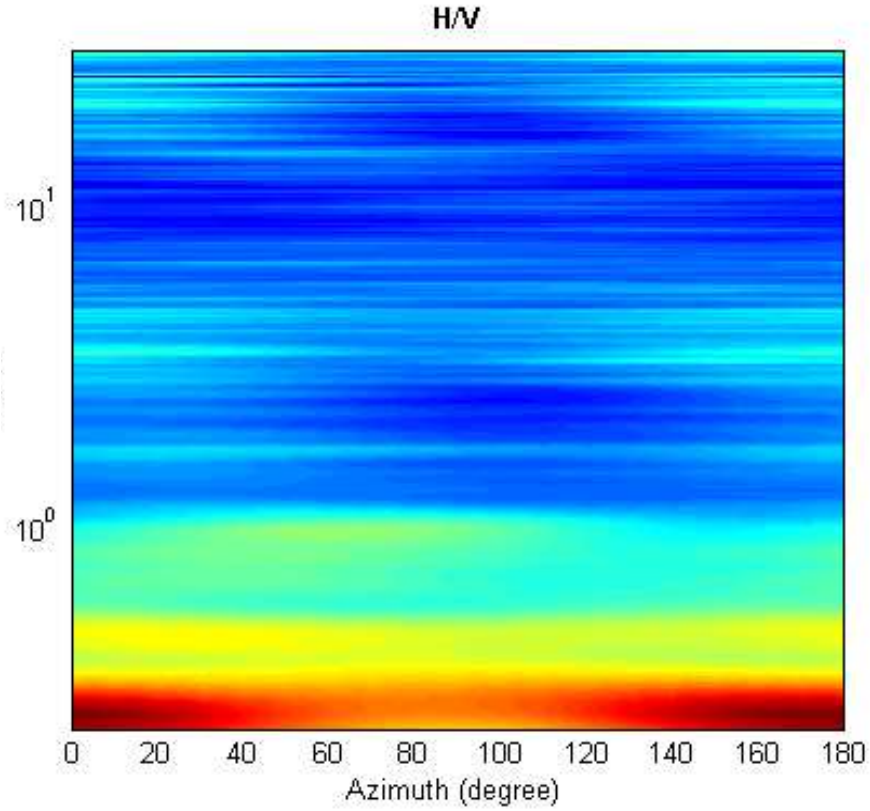
clean | compute

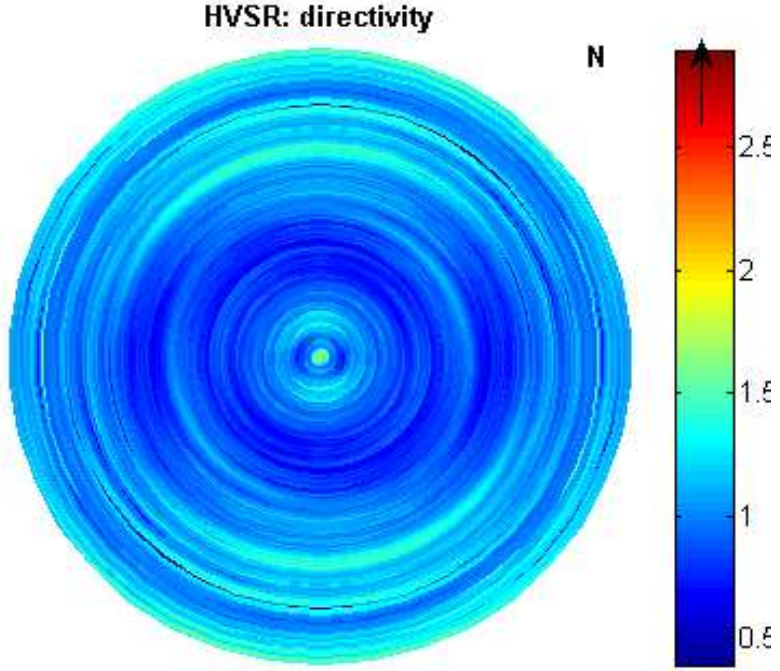




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve

HVSR vs time
frequency (Hz)
10^1
10^0
2
4
6
8
10
12
14
16
18
20
22
time (min)


H/V
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
2.5
2
1.5
1
0.5

Misura 8

Date: 17 8 2012

Time: 13 3

Dataset: 35-Galvani-1.SAF

Sampling frequency (Hz): 128

Window length (sec): 40

Length of analysed temporal sequence (min): 20.1

Tapering (%): 10

==========

In the following the results considering the data in the 0.1-0.9Hz frequency range

Peak frequency (Hz): 0.3 (±0.2)

Peak HVSR value: 2.6 (±0.5)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 0.3 > 0.25 (OK)

#2. [nc > 200]: 738 > 200 (OK)

#3. [f0<0.5Hz; sigmaA(f) < 3 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: yes, at frequency 0.2Hz (OK)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 0.8Hz (OK)

#3. [A0 > 2]: 2.6 > 2 (OK)

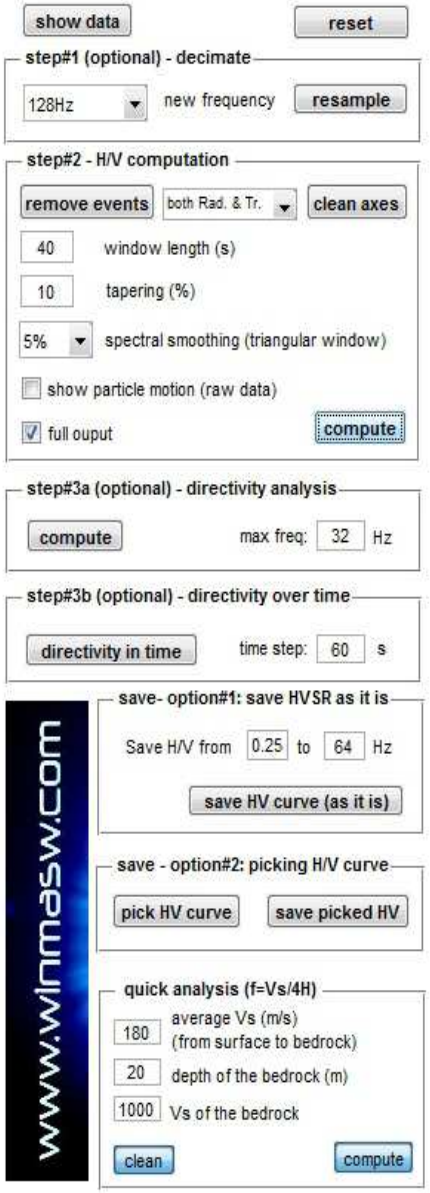
#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

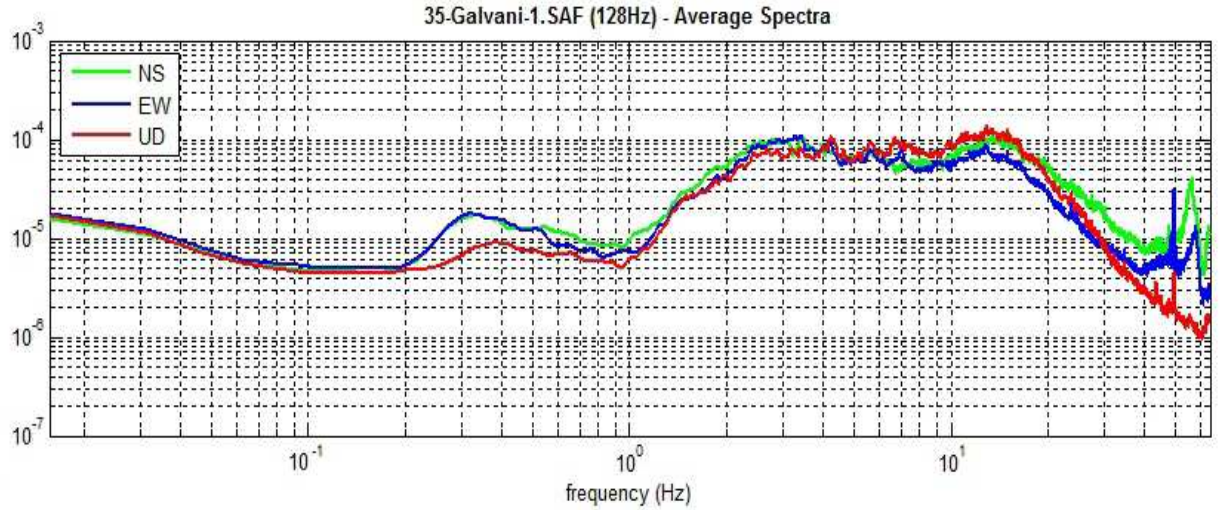
#5. [sigmaf < epsilon(f0)]: 0.192 > 0.063 (NO)

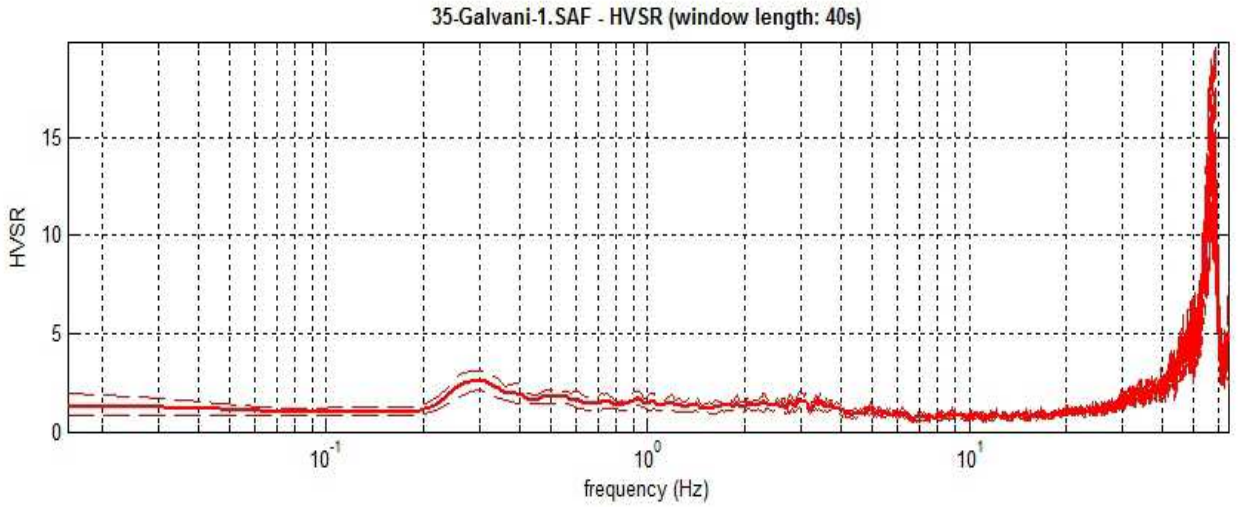
#6. [sigmaA(f0) < theta(f0)]: 0.487 < 2.5 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

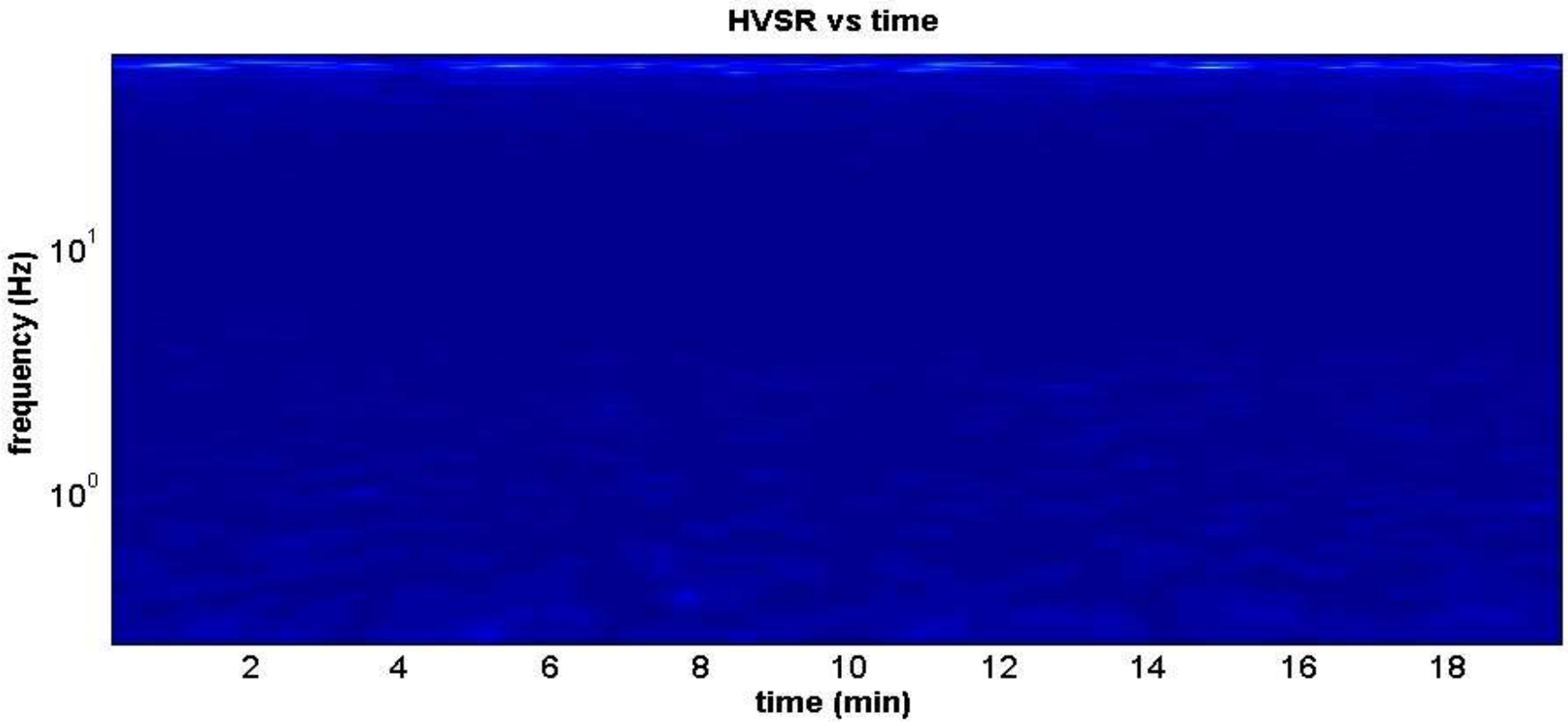
Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

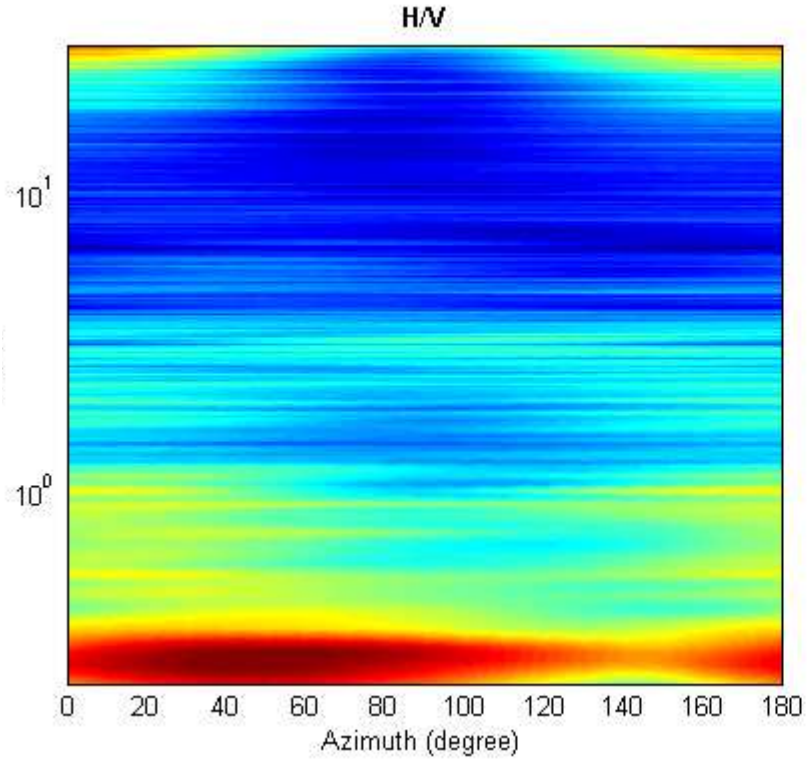


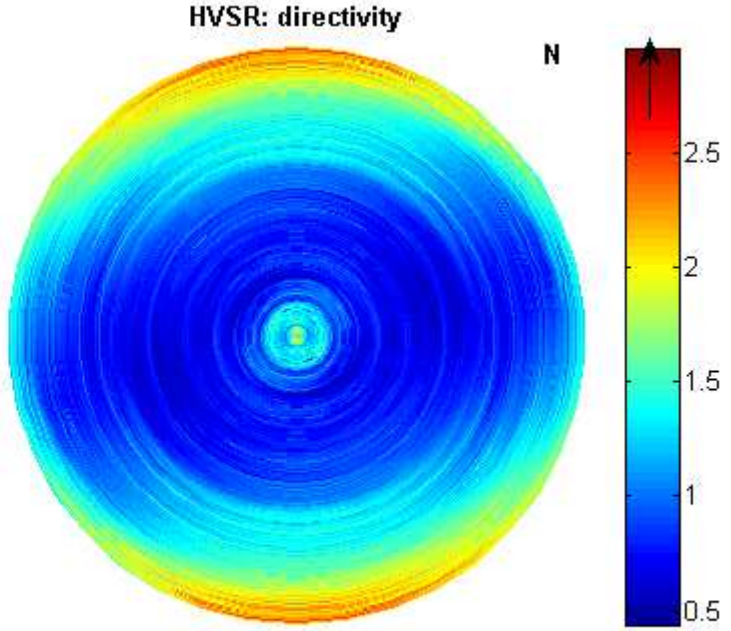




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^1
10^0
2
4
6
8
10
12
14
16
18
time (min)


H/V
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
2.5
2
1.5
1
0.5

Misura 9

Date: 10 8 2012

Time: 8 42

Dataset: 12-Casalino-1.SAF

Sampling frequency (Hz): 128

Window length (sec): 50

Length of analysed temporal sequence (min): 29.1

Tapering (%): 10

==========

In the following the results considering the data in the 0.5-1.0Hz frequency range

Peak frequency (Hz): 1.0 (±0.2)

Peak HVSR value: 0.9 (±0.2)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 1.0 > 0.2 (OK)

#2. [nc > 200]: 3454 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: (NO)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: (NO)

#3. [A0 > 2]: 0.9 < 2 (NO)

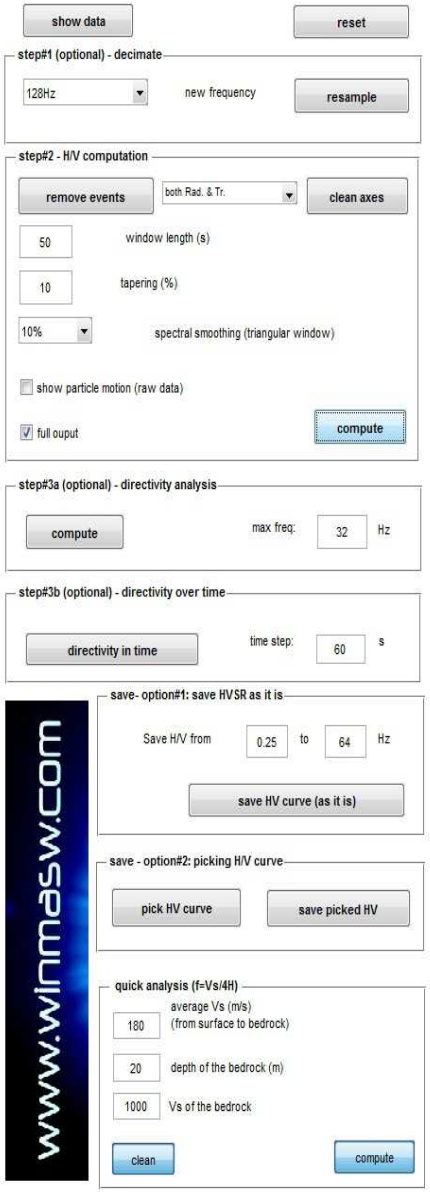
#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

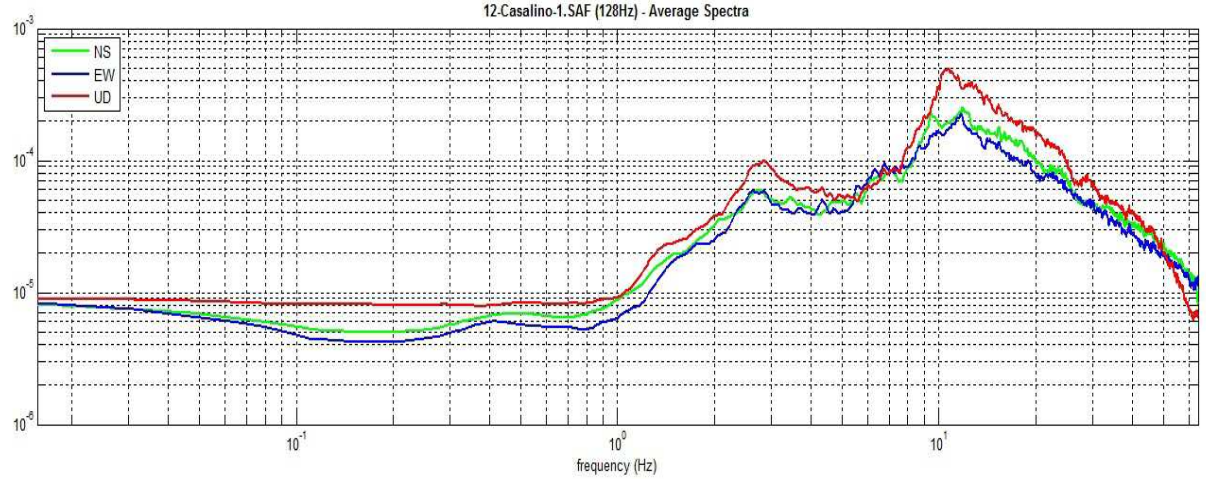
#5. [sigmaf < epsilon(f0)]: 0.177 > 0.102 (NO)

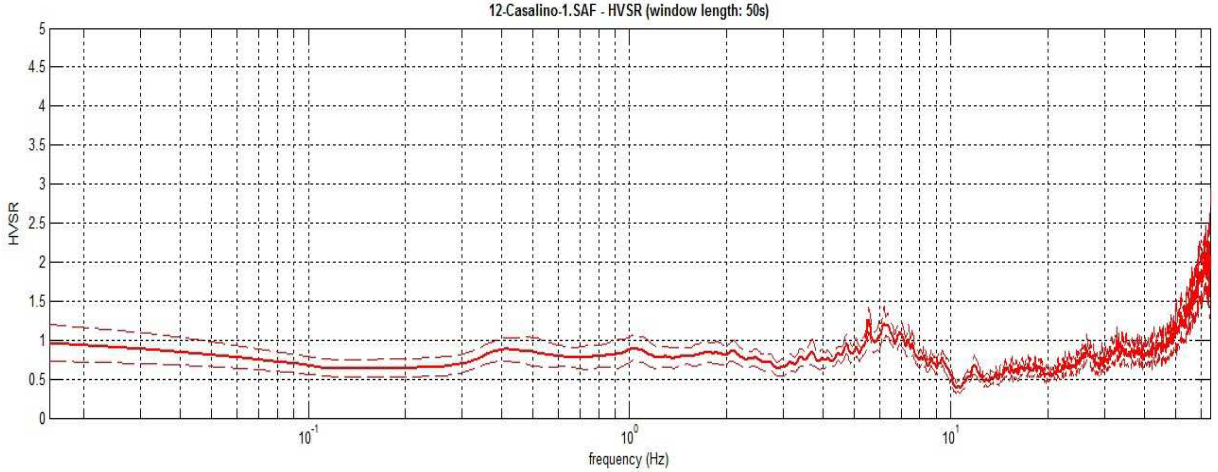
#6. [sigmaA(f0) < theta(f0)]: 0.163 < 1.78 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

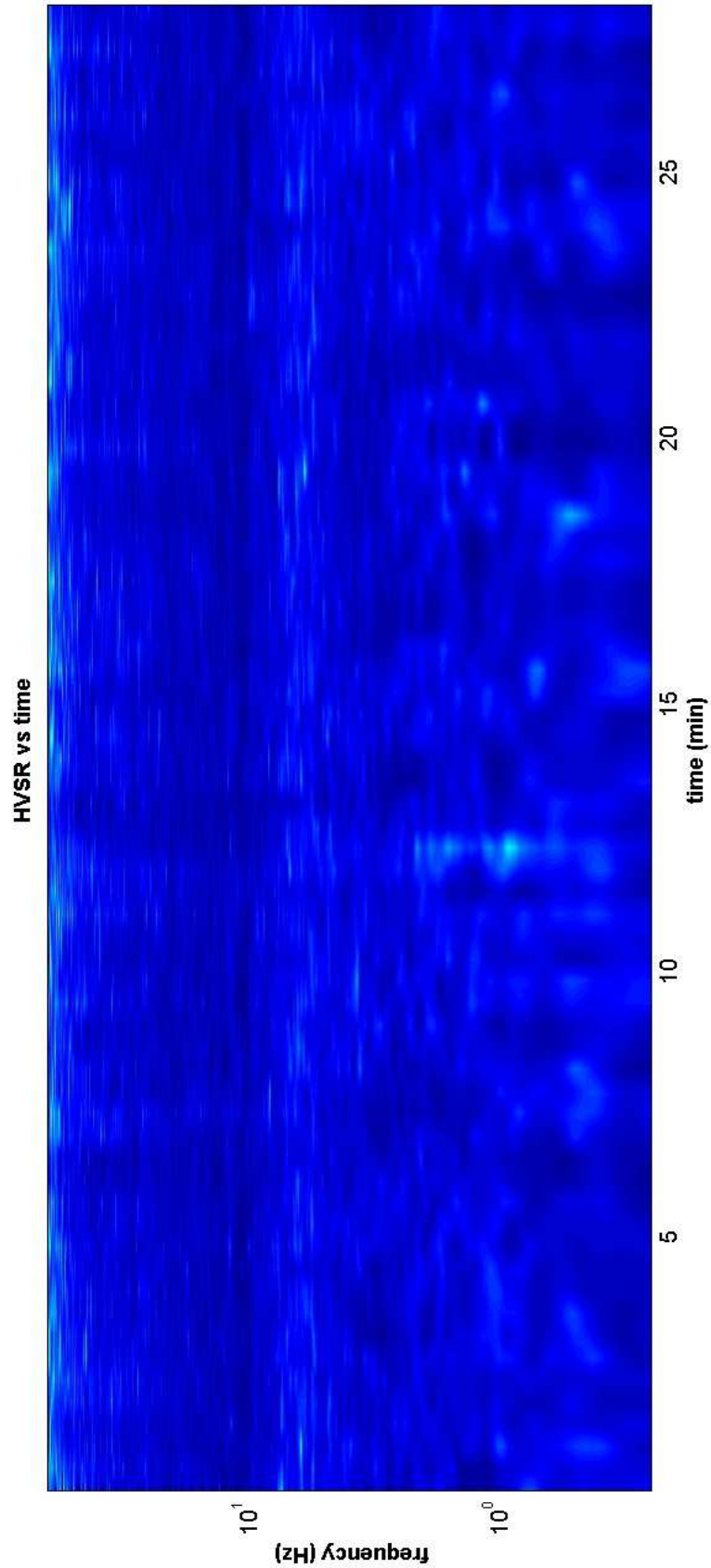
Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

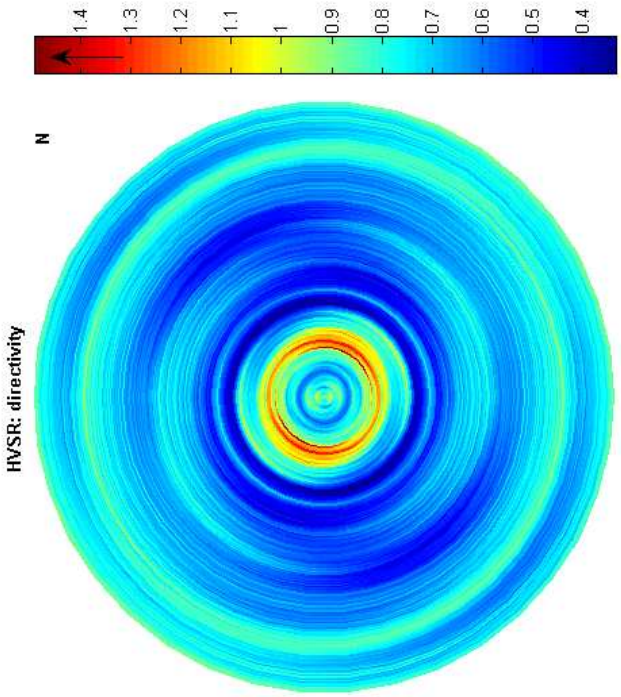


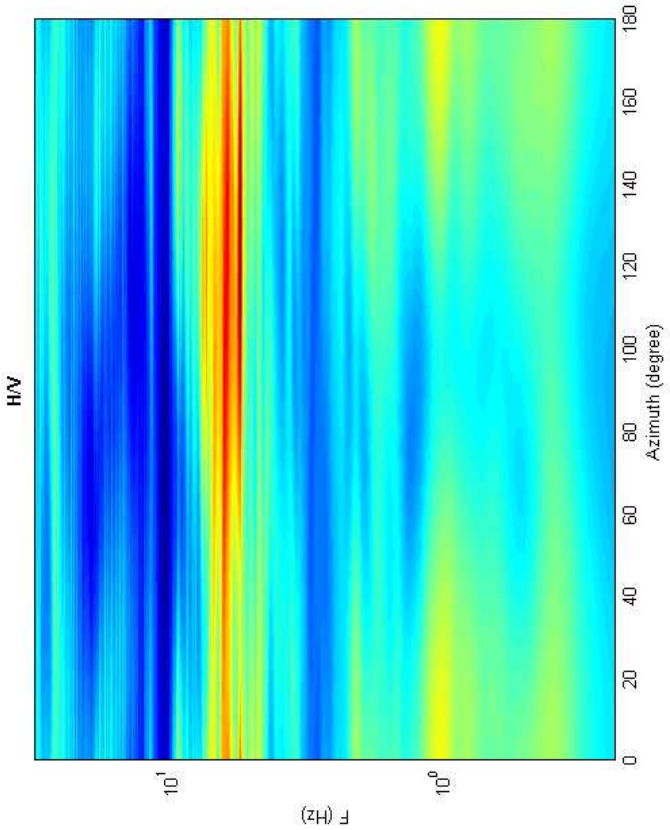




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^{1}
10^{0}
5
10
15
20
25
time (min)


HVSR: directivity
N
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4


H/V
F (Hz)
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)

Misura 10

Date: 10 8 2012

Time: 8 18

Dataset: 09-Casalino-1.SAF

Sampling frequency (Hz): 128

Window length (sec): 30

Length of analysed temporal sequence (min): 30.0

Tapering (%): 5

==========

In the following the results considering the data in the 0.5-20.0Hz frequency range

Peak frequency (Hz): 14.2 (±4.6)

Peak HVSR value: 2.0 (±0.3)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 14.2 > 0.33333 (OK)

#2. [nc > 200]: 50248 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: yes, at frequency 10.0Hz (OK)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 17.3Hz (OK)

#3. [A0 > 2]: 2.0 < 2 (NO)

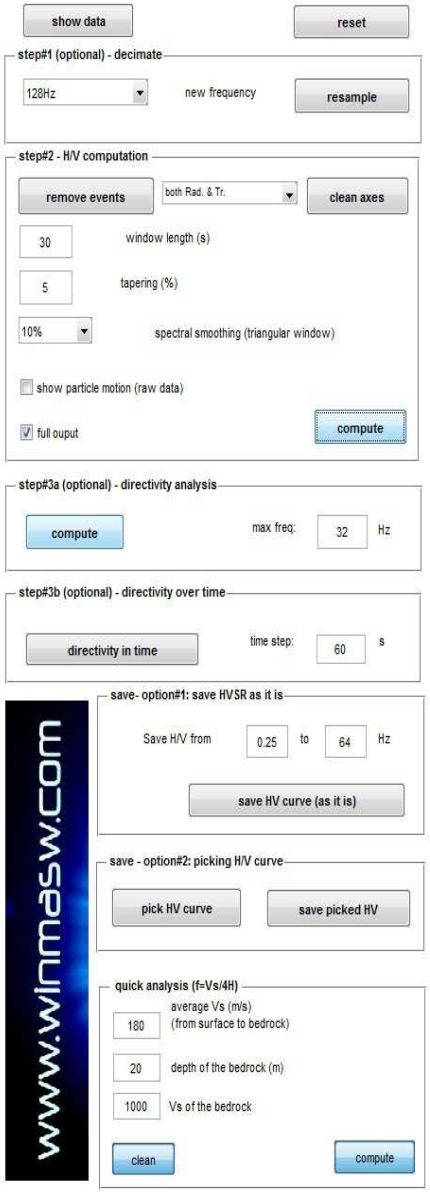
#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

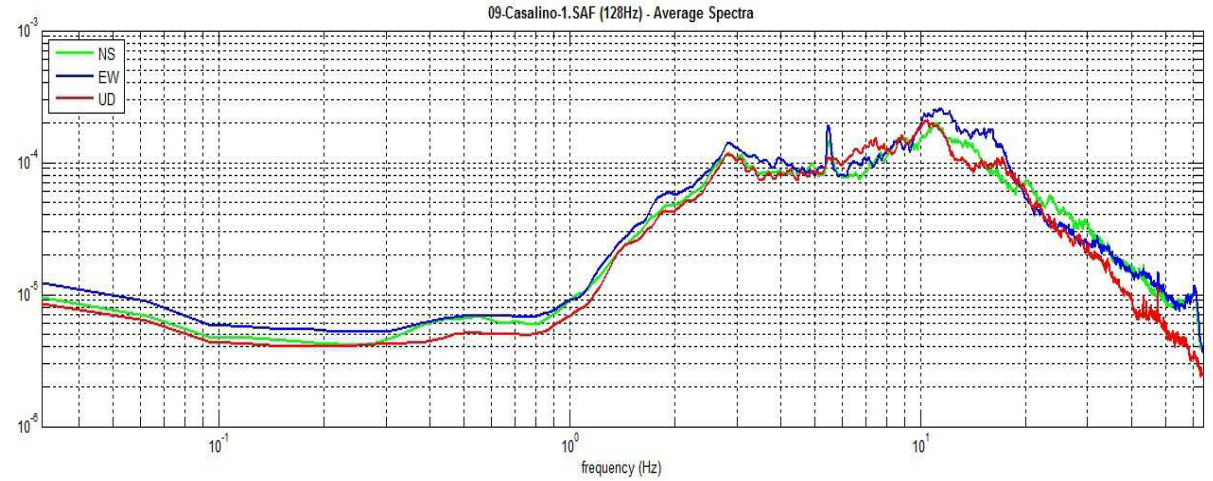
#5. [sigmaf < epsilon(f0)]: 4.584 > 0.710 (NO)

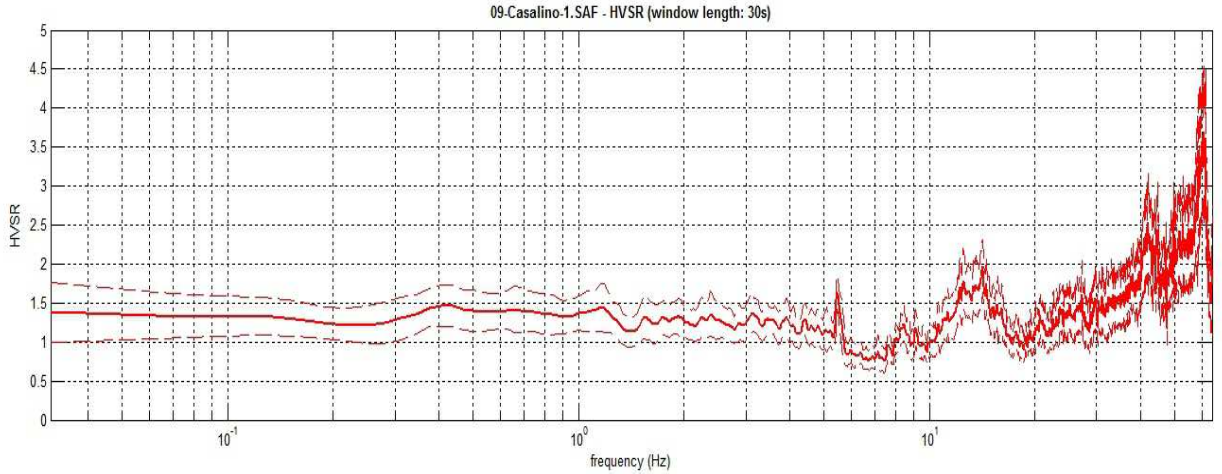
#6. [sigmaA(f0) < theta(f0)]: 0.358 < 1.58 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

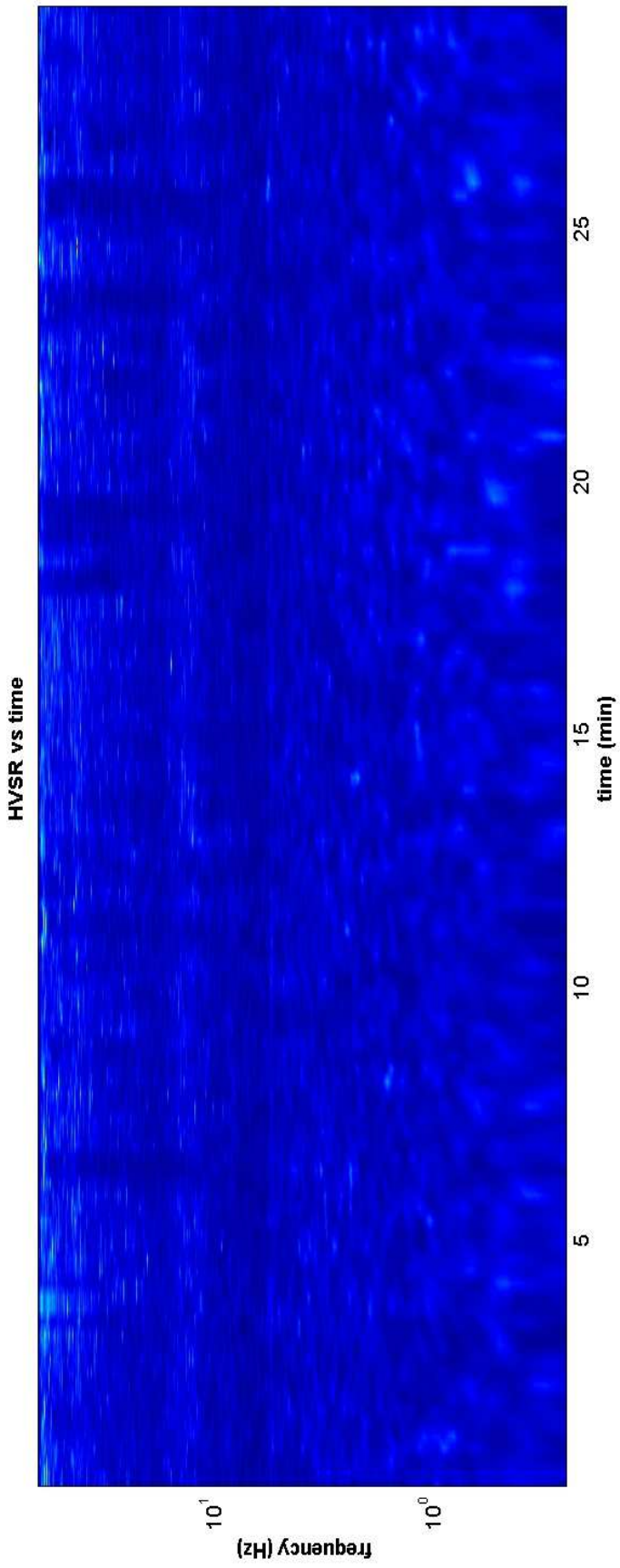
Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

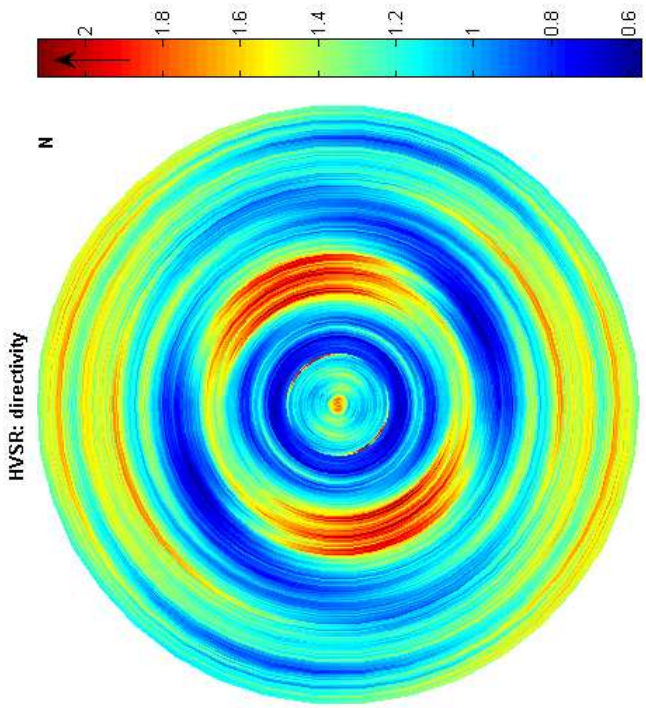


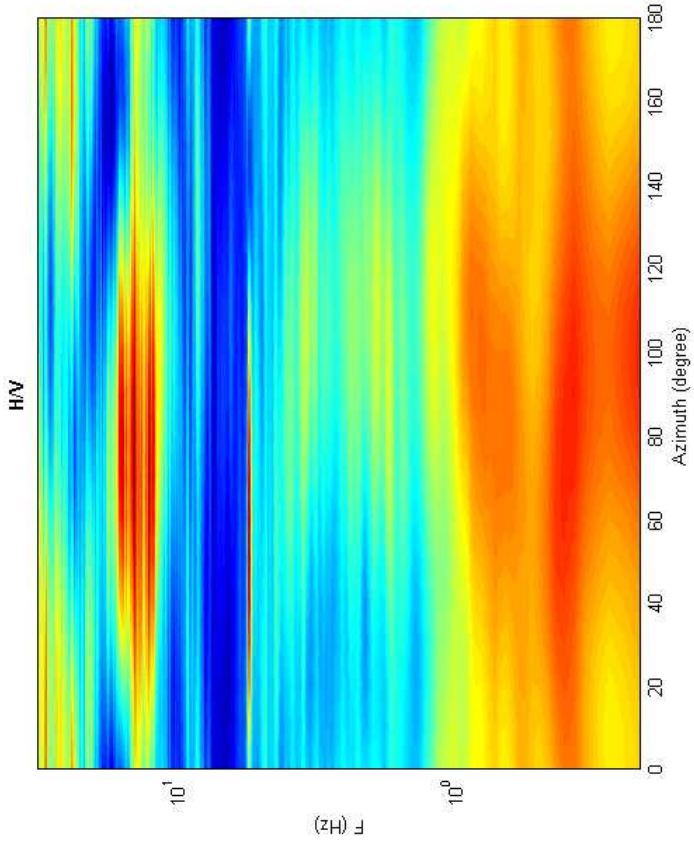




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
time (min)
5
10
15
20
25
frequency (Hz)
10^{0}
10^{1}


HVSR: directivity
N
2
1.8
1.6
1.4
1.2
1
0.8
0.6


H/V
F (Hz)
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)

Misura 11

Date: 6 9 2012

Time: 17 5

Dataset: 10-Casalino-2.SAF

Sampling frequency (Hz): 128

Window length (sec): 75

Length of analysed temporal sequence (min): 18.0

Tapering (%): 10

==========

In the following the results considering the data in the 0.1-0.6Hz frequency range

Peak frequency (Hz): 0.4 (±0.1)

Peak HVSR value: 2.1 (±0.3)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 0.4 > 0.13333 (OK)

#2. [nc > 200]: 791 > 200 (OK)

#3. [f0<0.5Hz; sigmaA(f) < 3 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: yes, at frequency 0.1Hz (OK)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: (NO)

#3. [A0 > 2]: 2.1 > 2 (OK)

#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

#5. [sigmaf < epsilon(f0)]: 0.073 < 0.078 (OK)

#6. [sigmaA(f0) < theta(f0)]: 0.358 < 2.5 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

show data | reset

step#1 (optional) - decimate

128Hz | new frequency | resample

step#2 - H/V computation

remove events | both Rad. & Tr. | clean axes

75 window length (s)

10 tapering (%)

5% spectral smoothing (triangular window)

☐ show particle motion (raw data)

☑ full ouput | compute

step#3a (optional) - directivity analysis

compute | max freq: 32 Hz

step#3b (optional) - directivity over time

directivity in time | time step: 60 s

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save- option#1: save HVSR as it is

Save H/V from 0.25 to 64 Hz

save HV curve (as it is)

save - option#2: picking H/V curve

pick HV curve | save picked HV

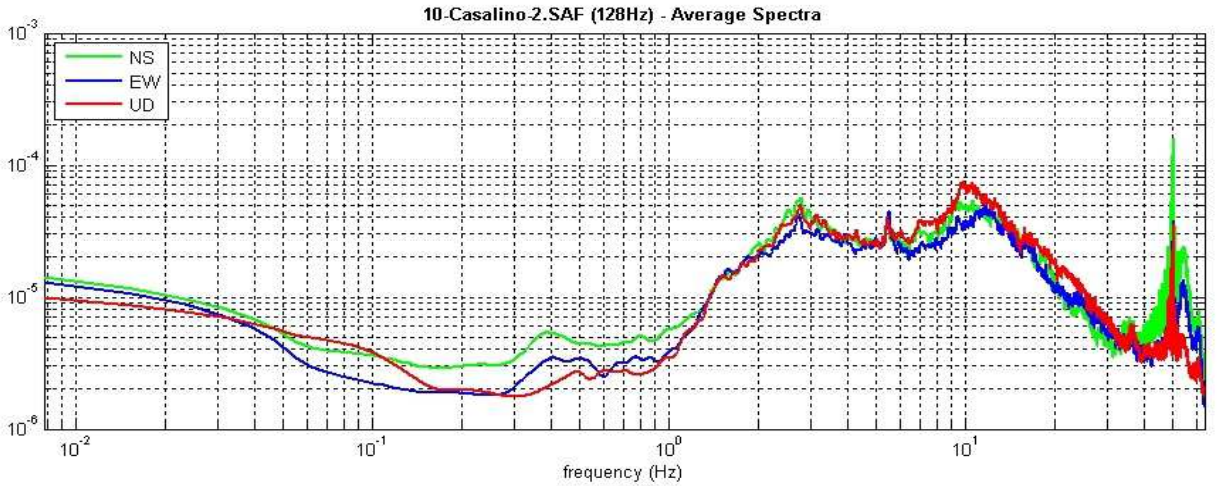
quick analysis (f=Vs/4H)

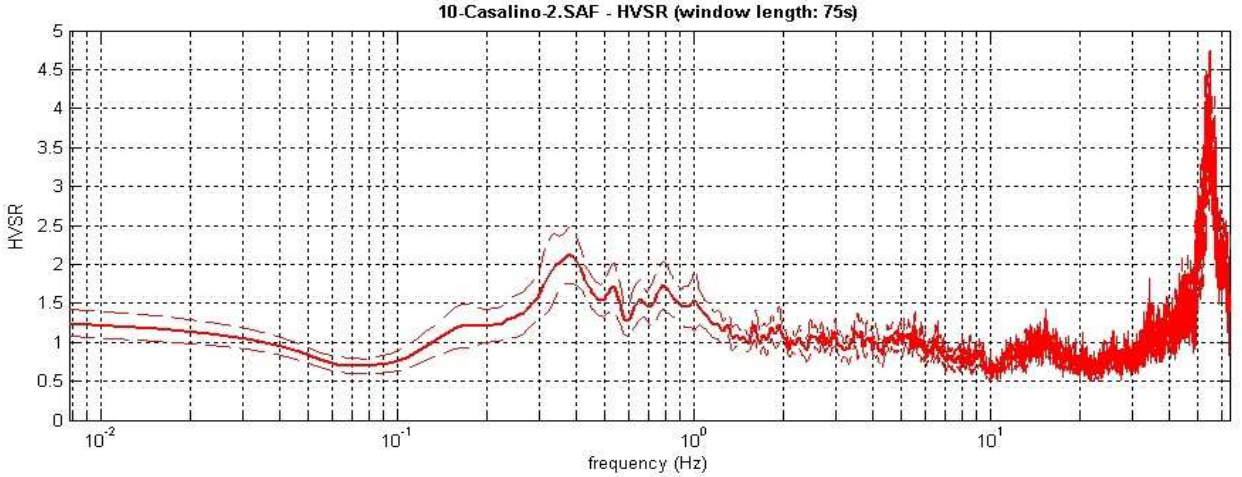
180 average Vs (m/s) (from surface to bedrock)

20 depth of the bedrock (m)

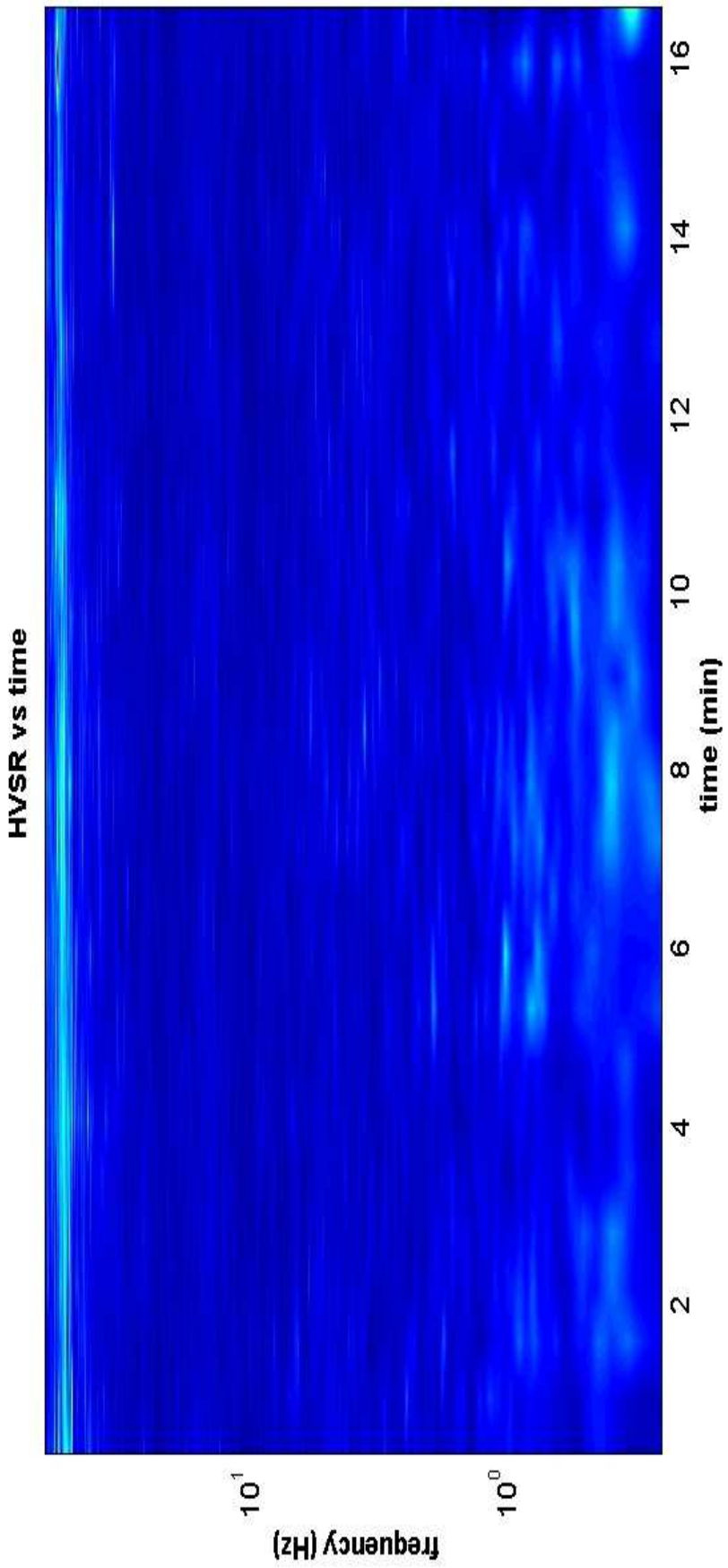
1000 Vs of the bedrock

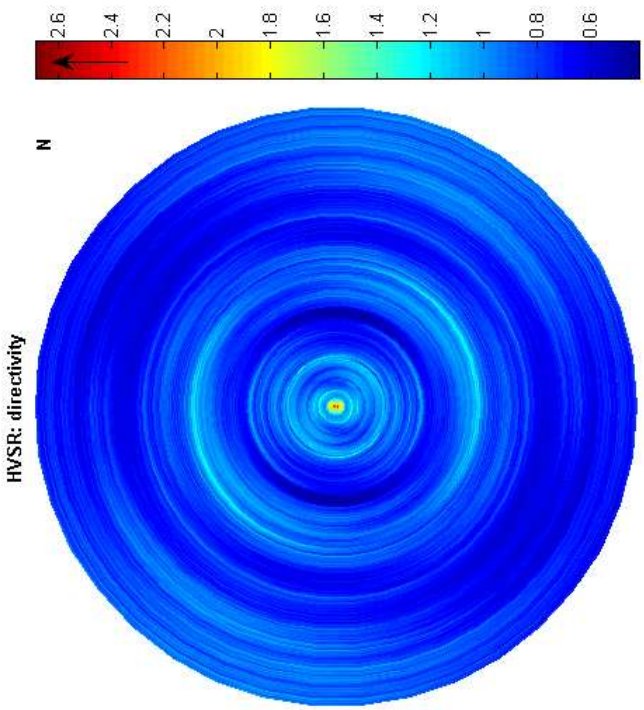
clean | compute

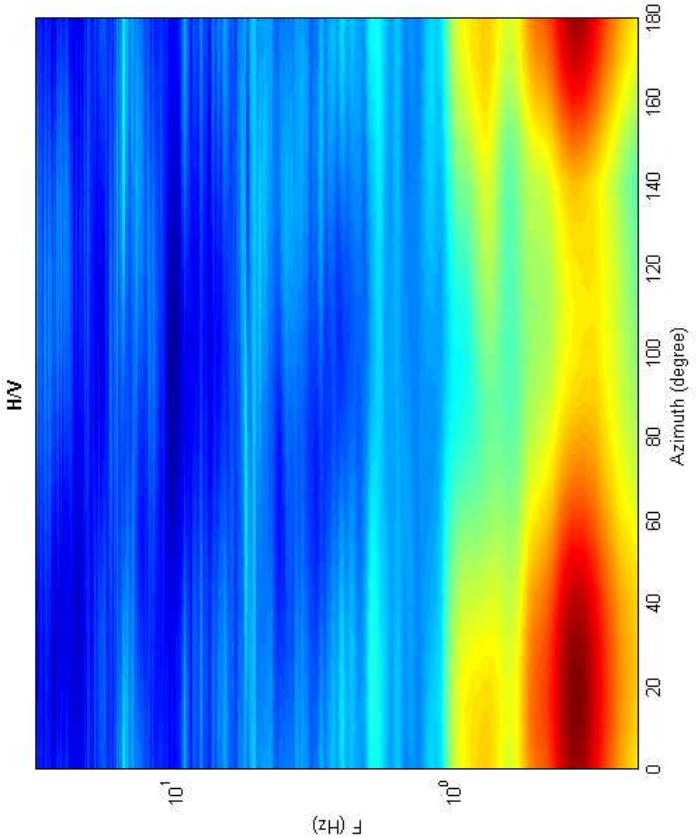




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^{1}
10^{0}
2
4
6
8
10
12
14
16
time (min)


HVSR: directivity
N
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6


H/V
F (Hz)
10^{-1}
10^{0}
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)

Misura 12

Date: 10 8 2012

Time: 8 37

Dataset: 11-Casalino-2.SAF

Sampling frequency (Hz): 128

Window length (sec): 50

Length of analysed temporal sequence (min): 25.1

Tapering (%): 10

==========

In the following the results considering the data in the 0.5-1.0Hz frequency range

Peak frequency (Hz): 0.5 (±0.2)

Peak HVSR value: 1.3 (±0.2)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 0.5 > 0.2 (OK)

#2. [nc > 200]: 1521 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: (NO)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: (NO)

#3. [A0 > 2]: 1.3 < 2 (NO)

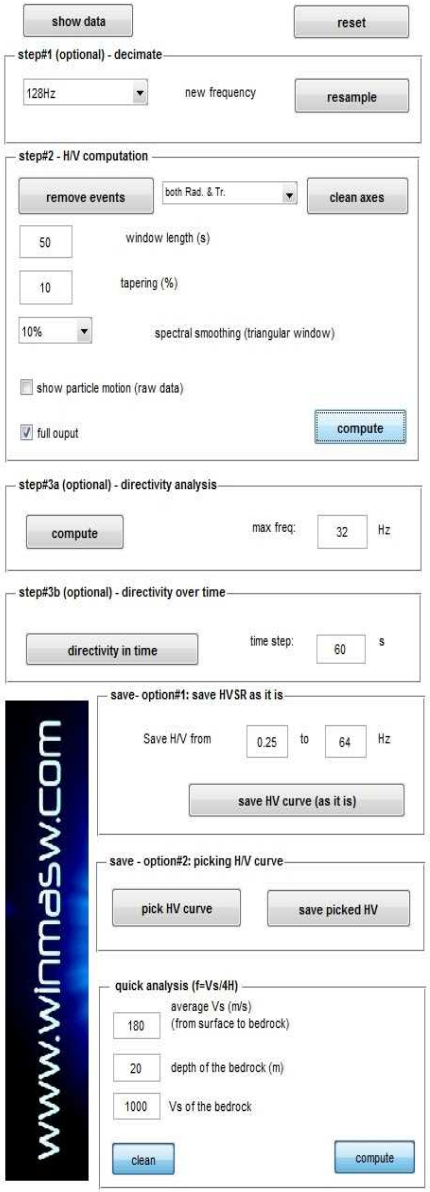
#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

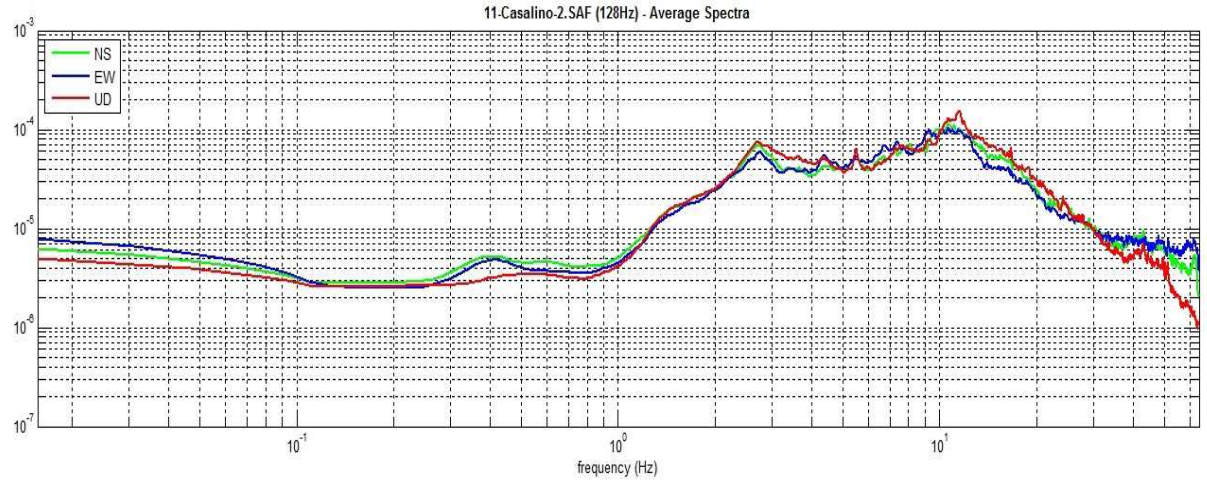
#5. [sigmaf < epsilon(f0)]: 0.174 > 0.077 (NO)

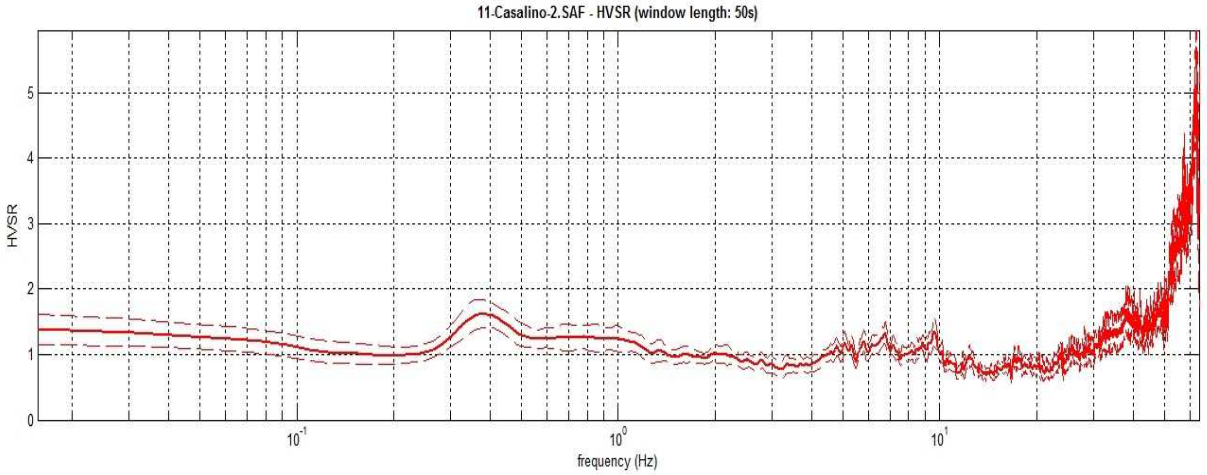
#6. [sigmaA(f0) < theta(f0)]: 0.171 < 2 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

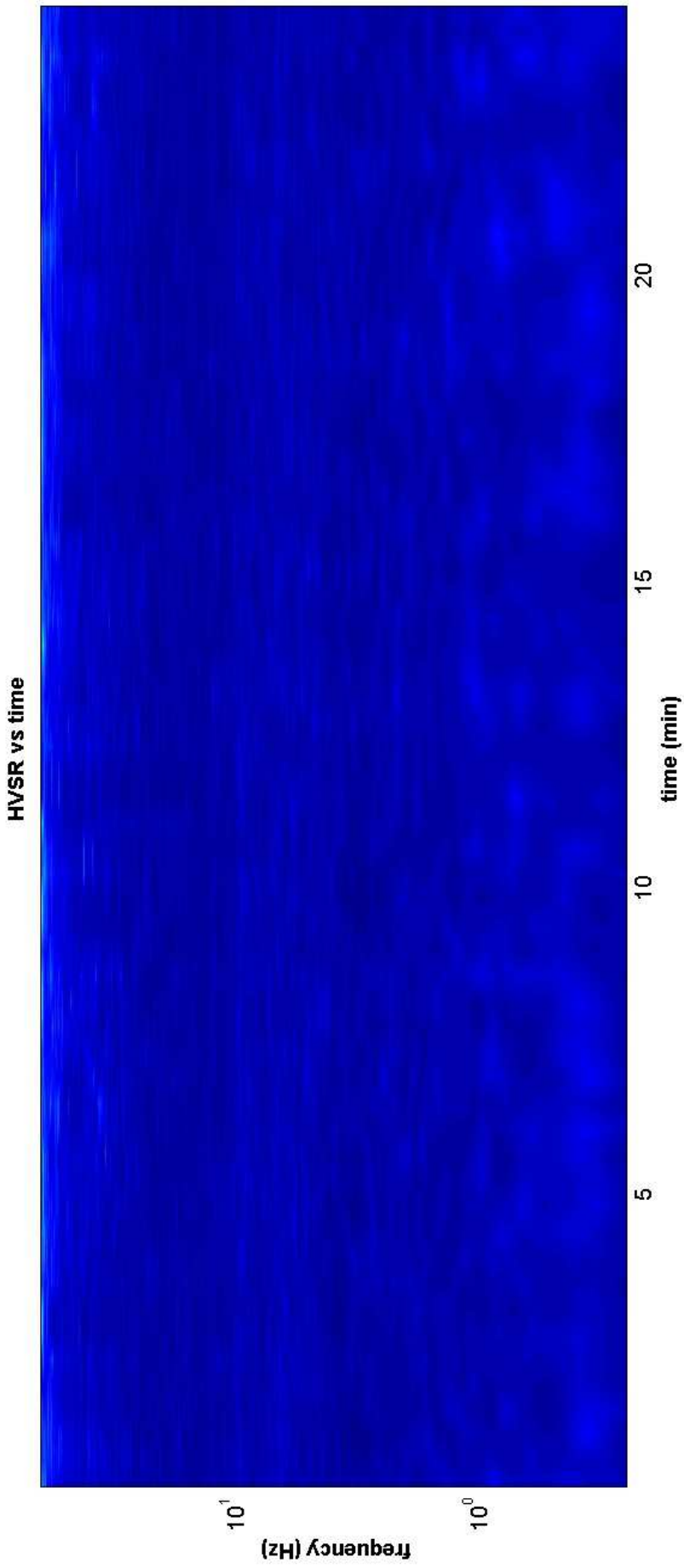
Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

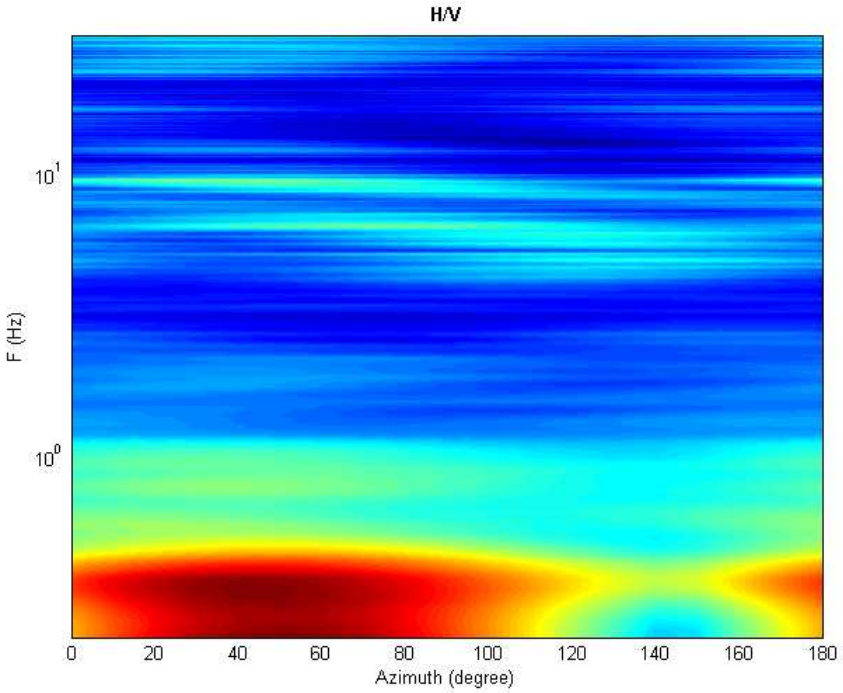


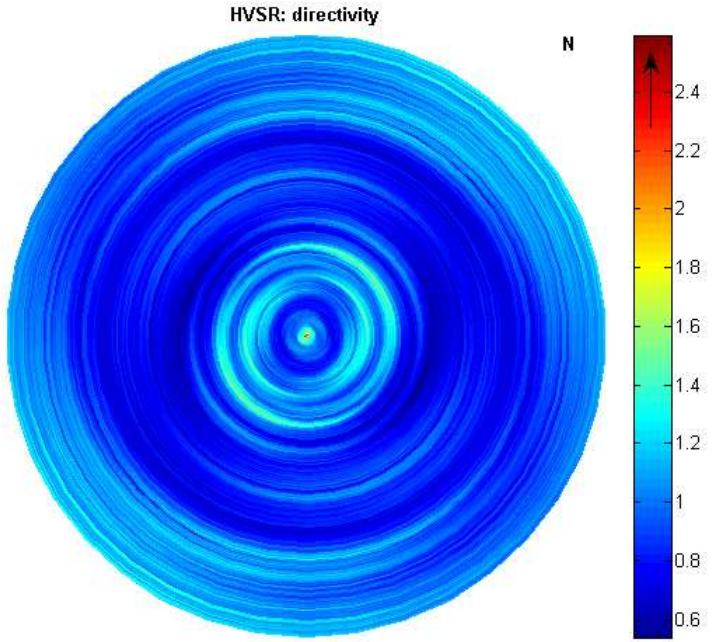




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^1
10^0
5
10
15
20
time (min)


H/V
F (Hz)
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6

Misura 13

Date: 10 8 2012

Time: 12 19

Dataset: 13-papaiano-2.SAF

Sampling frequency (Hz): 128

Window length (sec): 60

Length of analysed temporal sequence (min): 28.0

Tapering (%): 10

==========

In the following the results considering the data in the 0.1-0.7Hz frequency range

Peak frequency (Hz): 0.3 (±0.1)

Peak HVSR value: 2.3 (±0.2)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 0.3 > 0.16667 (OK)

#2. [nc > 200]: 1114 > 200 (OK)

#3. [f0<0.5Hz; sigmaA(f) < 3 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: (NO)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 0.6Hz (OK)

#3. [A0 > 2]: 2.3 > 2 (OK)

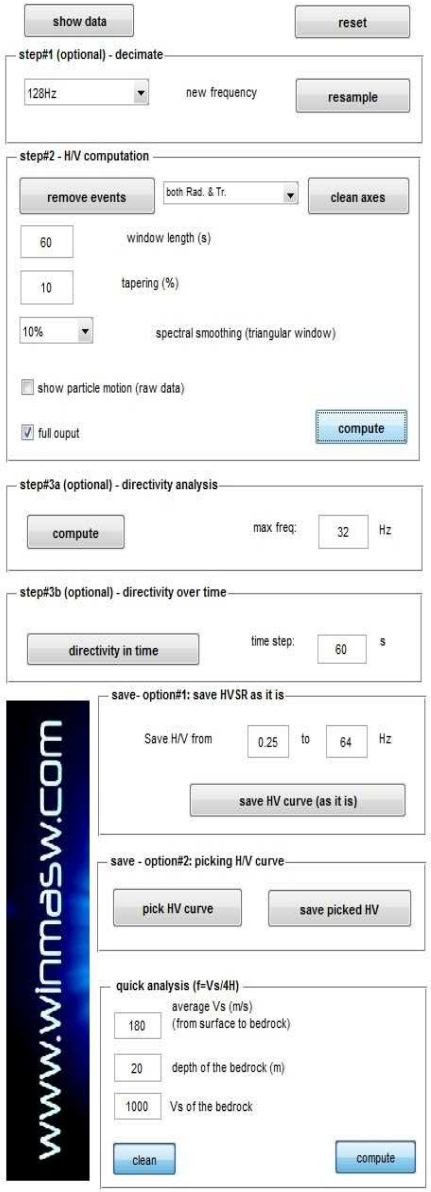
#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

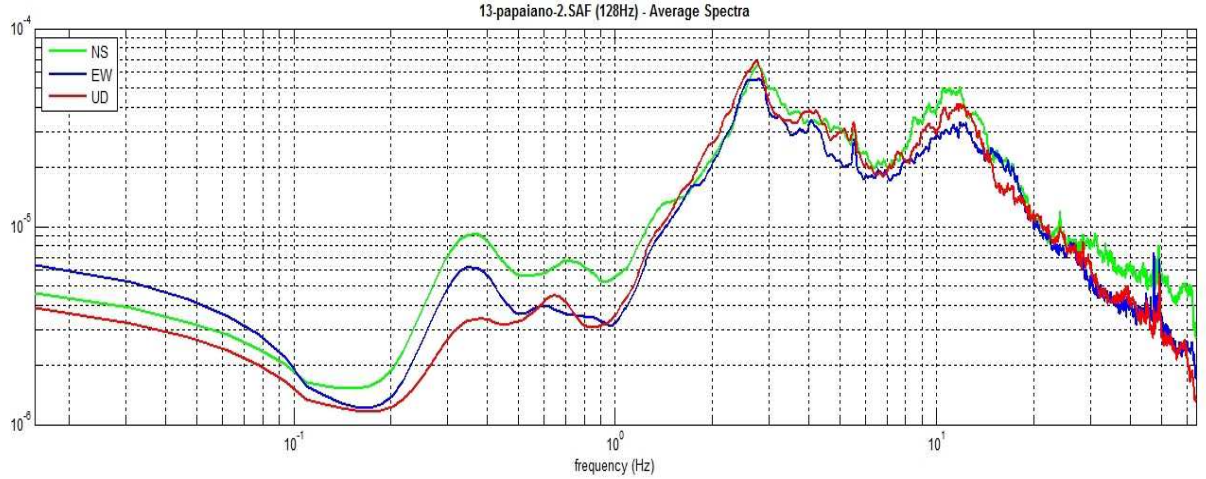
#5. [sigmaf < epsilon(f0)]: 0.065 < 0.069 (OK)

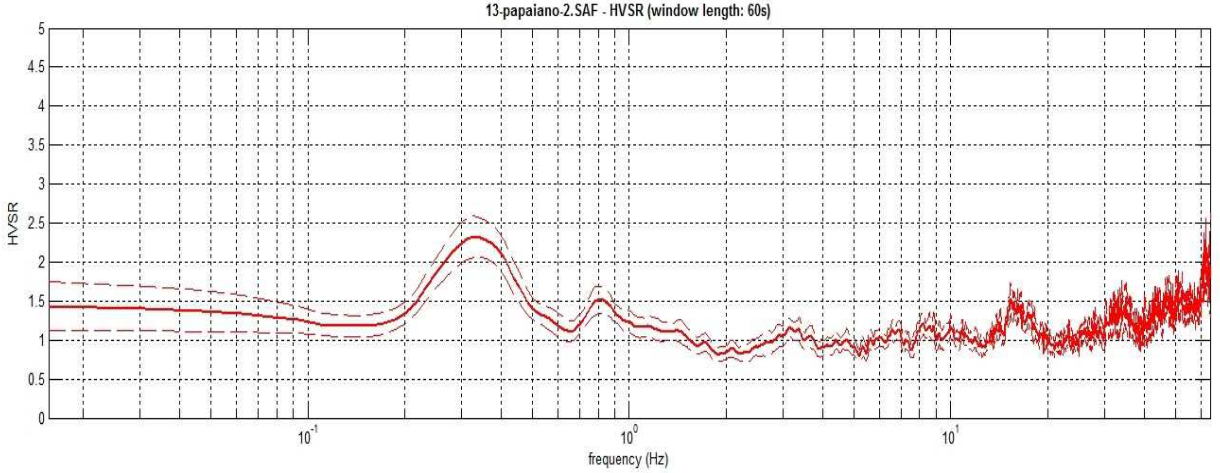
#6. [sigmaA(f0) < theta(f0)]: 0.260 < 2.5 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

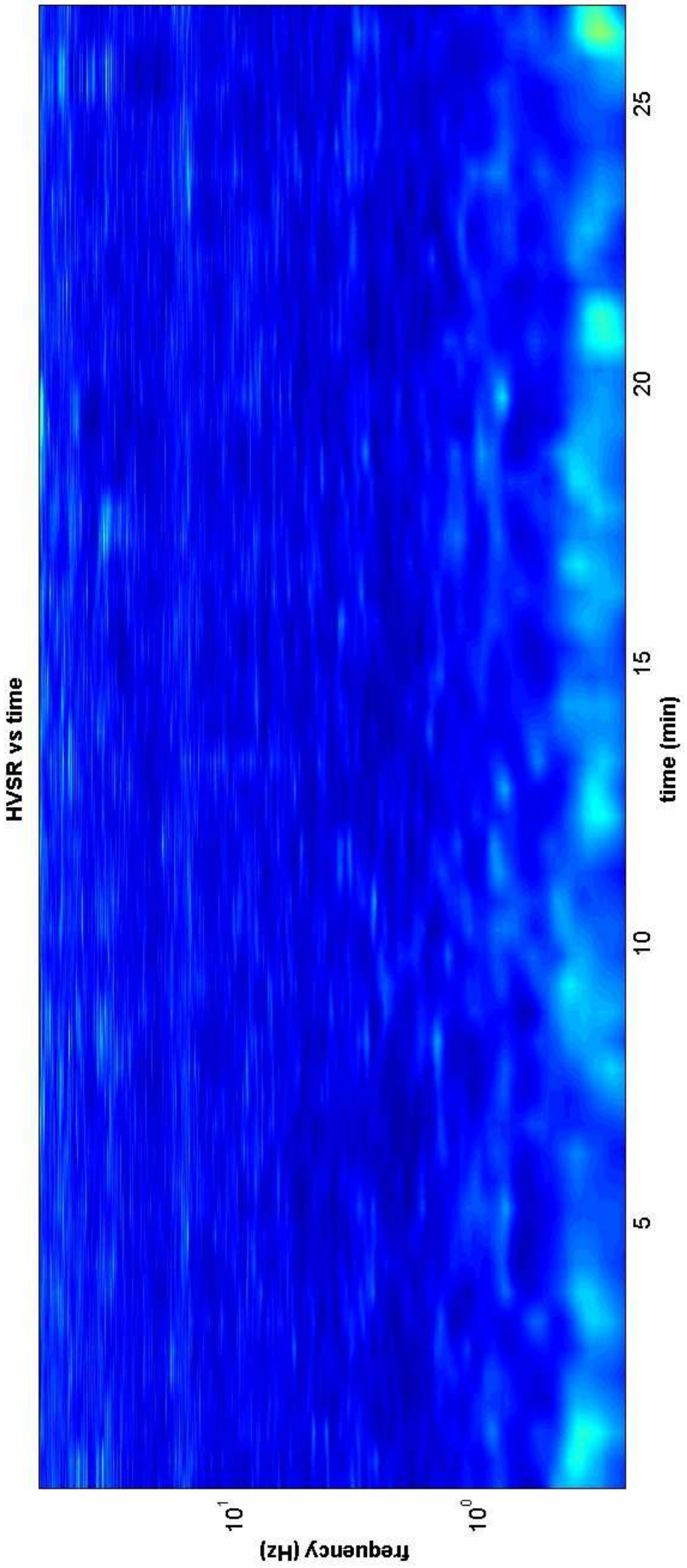
Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

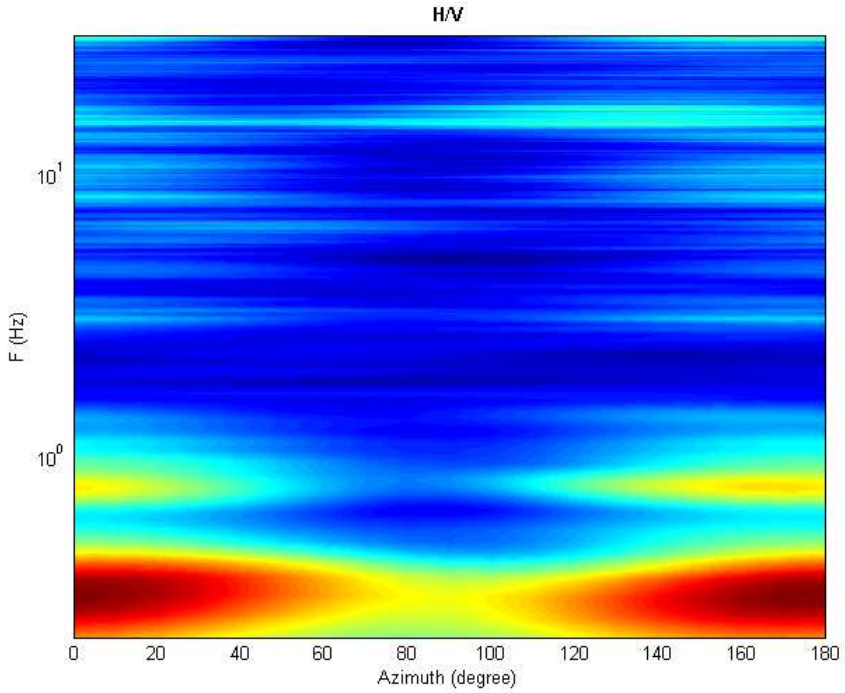


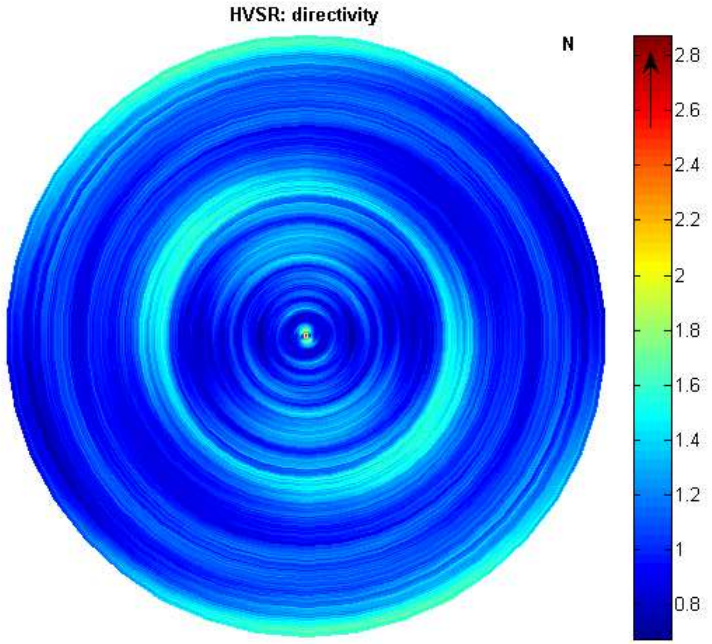




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^1
10^0
5
10
15
20
25
time (min)


H/V
F (Hz)
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8

Misura 14

Date: 28 8 2012

Time: 15 18

Dataset: 14-mocarellino.SAF

Sampling frequency (Hz): 128

Window length (sec): 50

Length of analysed temporal sequence (min): 20.5

Tapering (%): 5

==========

In the following the results considering the data in the 0.3-0.7Hz frequency range

Peak frequency (Hz): 0.4 (±0.1)

Peak HVSR value: 2.7 (±0.4)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 0.4 > 0.2 (OK)

#2. [nc > 200]: 900 > 200 (OK)

#3. [f0<0.5Hz; sigmaA(f) < 3 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: (NO)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 0.6Hz (OK)

#3. [A0 > 2]: 2.7 > 2 (OK)

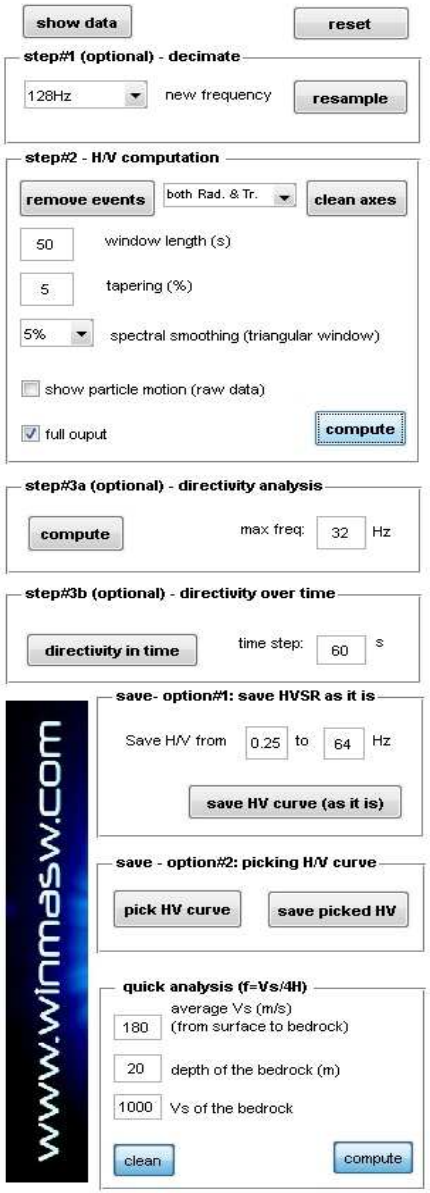
#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

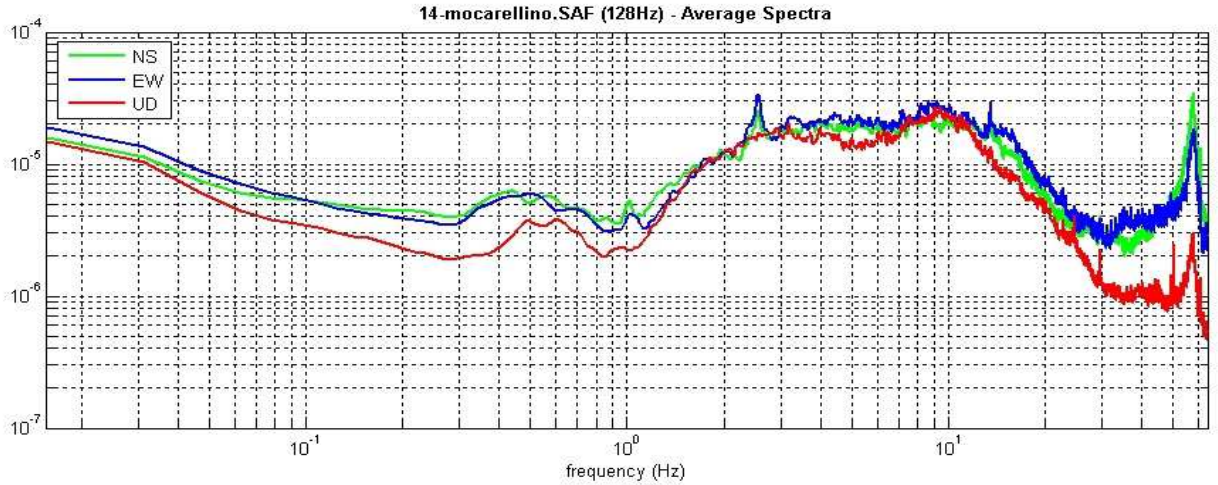
#5. [sigmaf < epsilon(f0)]: 0.068 < 0.075 (OK)

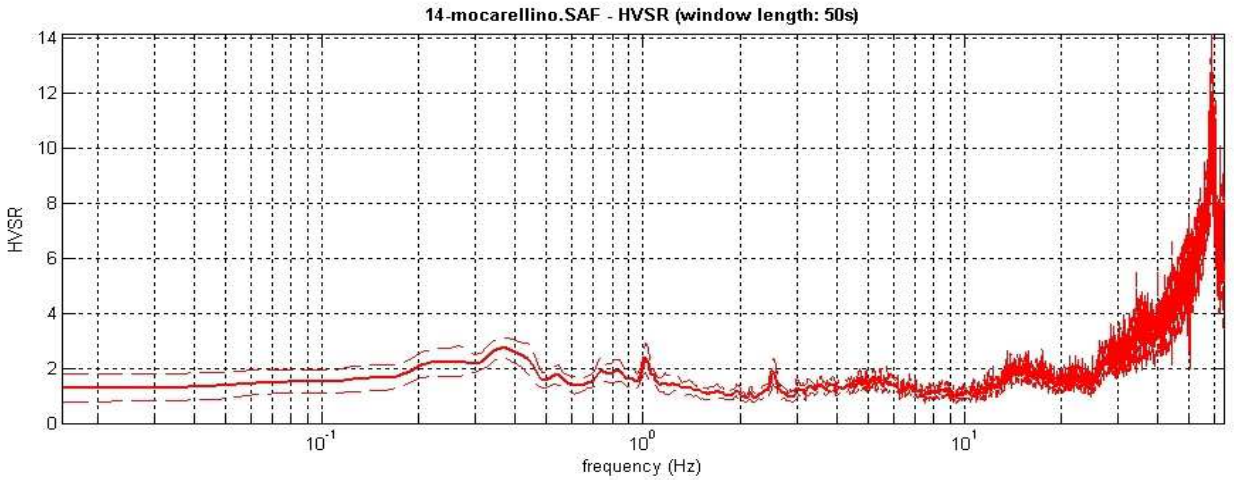
#6. [sigmaA(f0) < theta(f0)]: 0.340 < 2.5 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

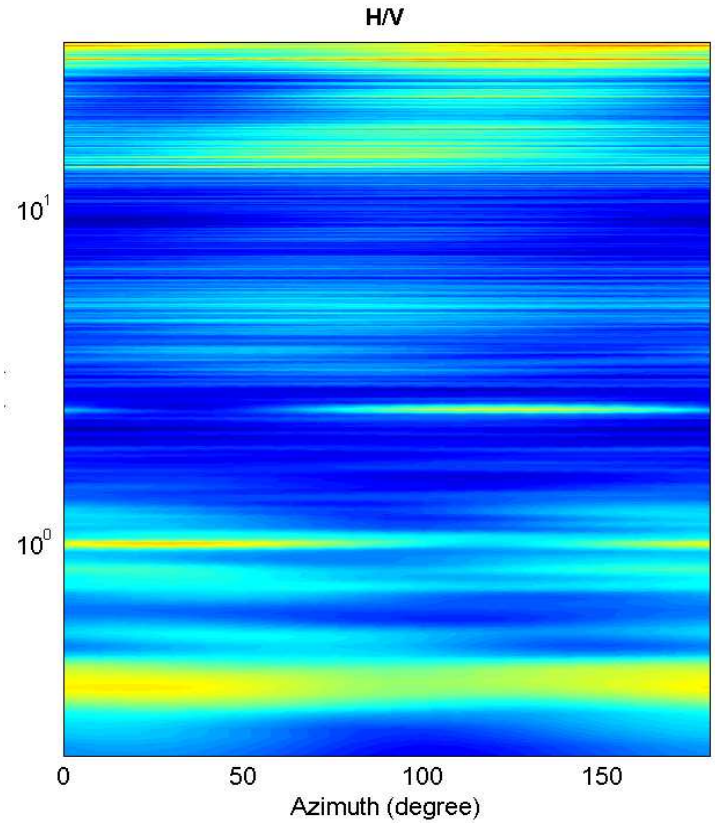


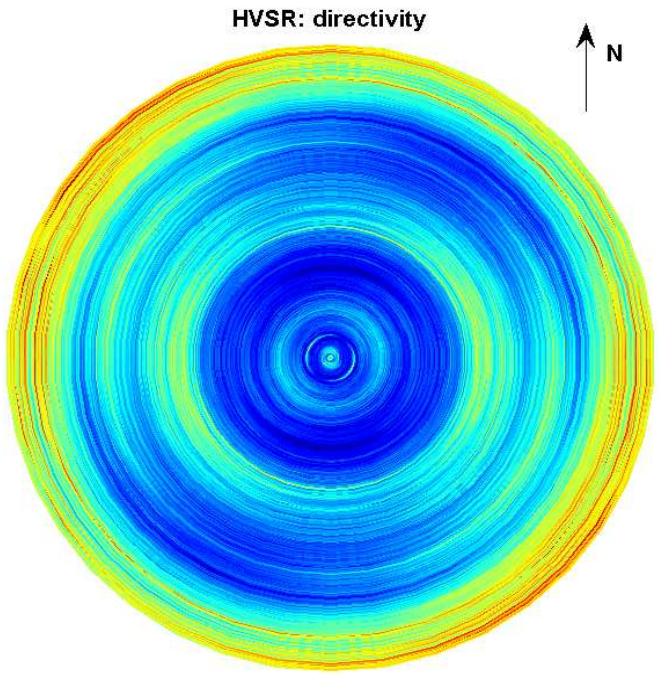




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve

HVSR vs time
frequency (Hz)
10^{1}
10^{0}
2
4
6
8
10
12
14
16
18
time (min)


H/V
10^1
10^0
0
50
100
150
Azimuth (degree)


HVSR: directivity
N

Misura 15

Date: 17 8 2012

Time: 15 12

Dataset: 38-stazione-2.SAF

Sampling frequency (Hz): 128

Window length (sec): 60

Length of analysed temporal sequence (min): 18.0

Tapering (%): 10

==========

In the following the results considering the data in the 0.7-1.5Hz frequency range

Peak frequency (Hz): 0.8 (±0.2)

Peak HVSR value: 3.4 (±0.8)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 0.8 > 0.16667 (OK)

#2. [nc > 200]: 1674 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: (NO)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 1.4Hz (OK)

#3. [A0 > 2]: 3.4 > 2 (OK)

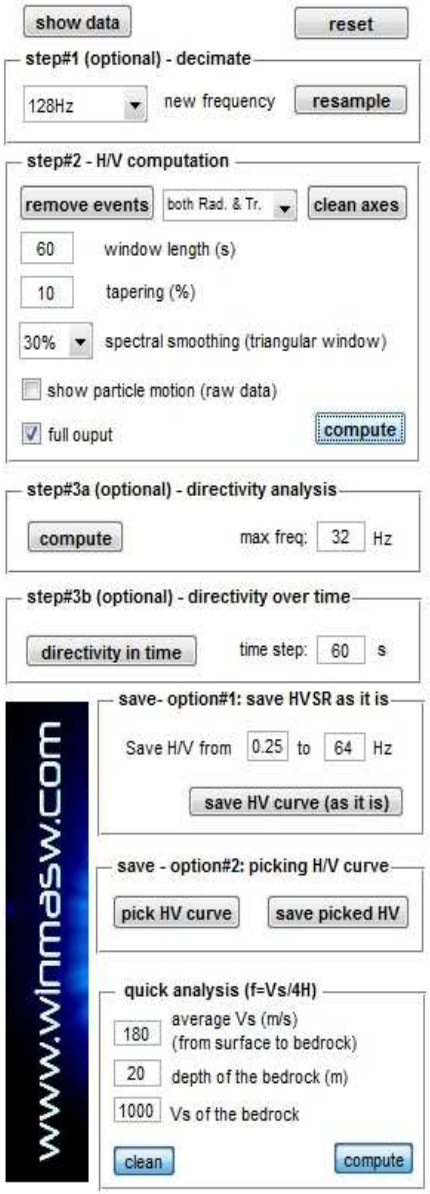
#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

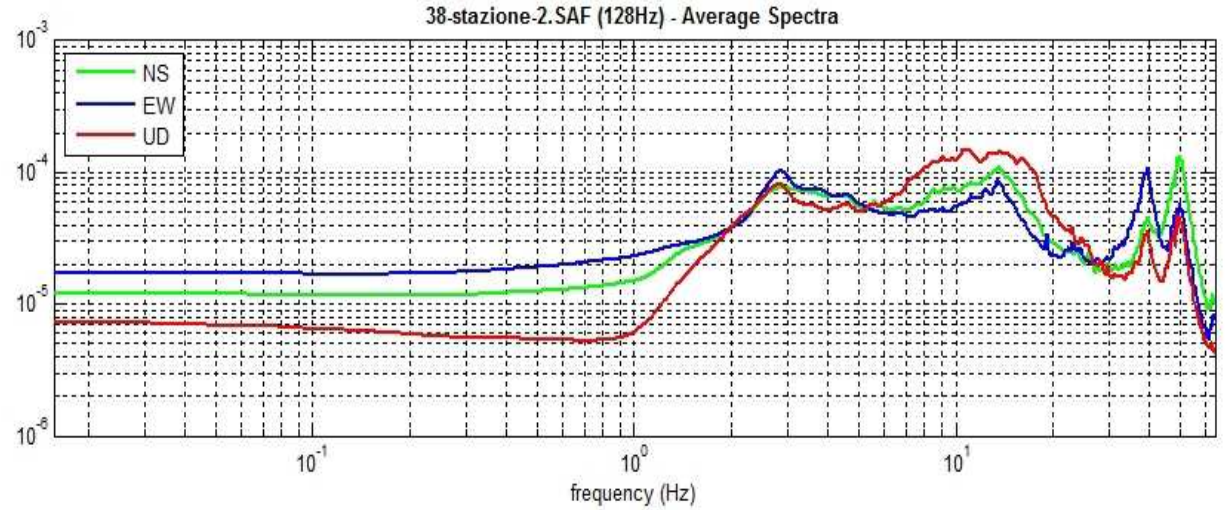
#5. [sigmaf < epsilon(f0)]: 0.163 > 0.120 (NO)

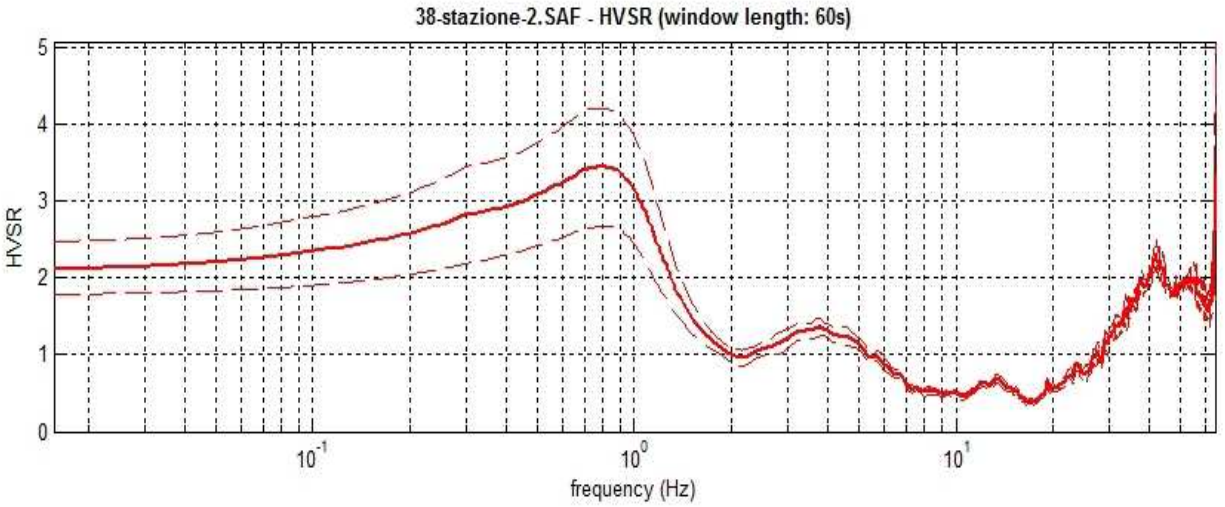
#6. [sigmaA(f0) < theta(f0)]: 0.772 < 2 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

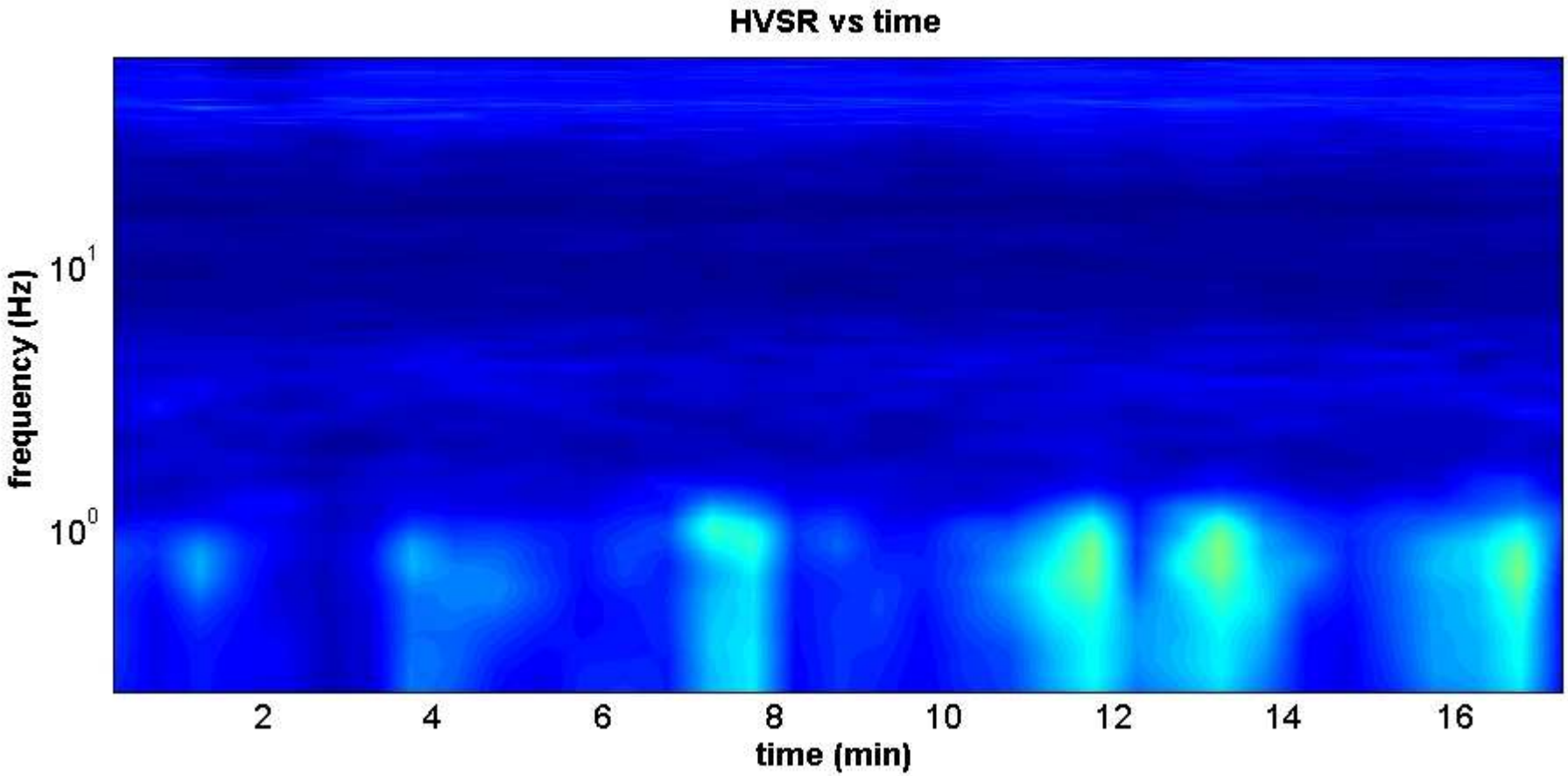
Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

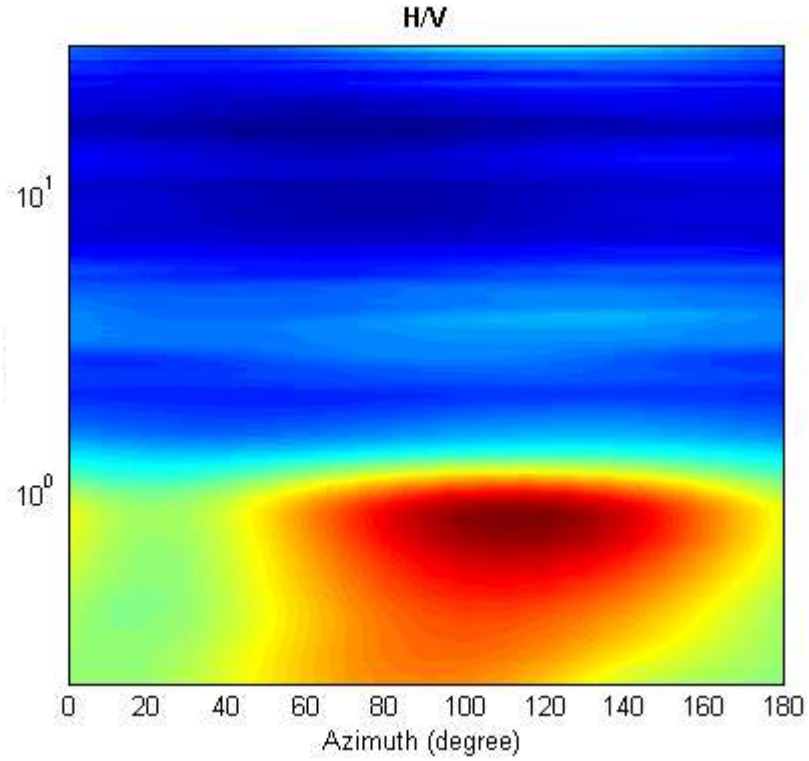


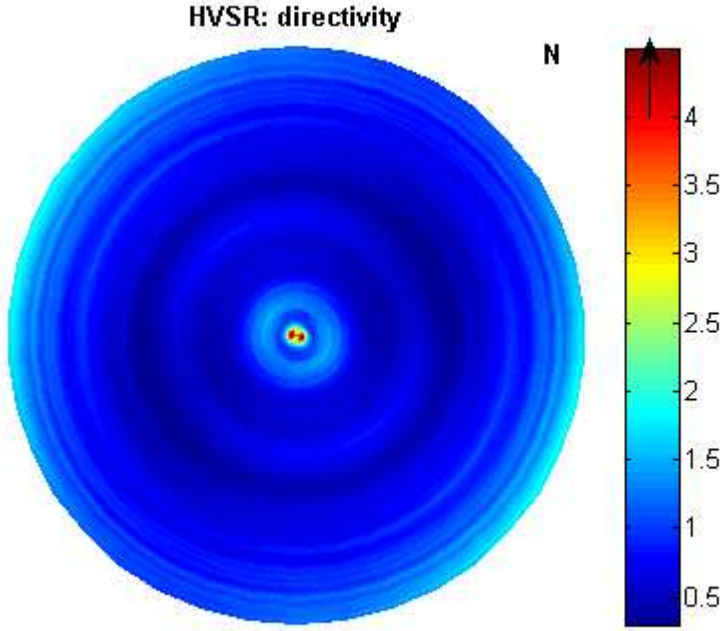




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^1
10^0
2
4
6
8
10
12
14
16
time (min)


H/V
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
4
3.5
3
2.5
2
1.5
1
0.5

Misura 16

Date: 6 9 2012

Time: 17 31

Dataset: 06-cspogg-1.SAF

Sampling frequency (Hz): 128

Window length (sec): 75

Length of analysed temporal sequence (min): 17.9

Tapering (%): 15

==========

In the following the results considering the data in the 0.1-1.0Hz frequency range

Peak frequency (Hz): 0.3 (±0.1)

Peak HVSR value: 3.8 (±0.5)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 0.3 > 0.13333 (OK)

#2. [nc > 200]: 554 > 200 (OK)

#3. [f0<0.5Hz; sigmaA(f) < 3 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: yes, at frequency 0.1Hz (OK)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 0.4Hz (OK)

#3. [A0 > 2]: 3.8 > 2 (OK)

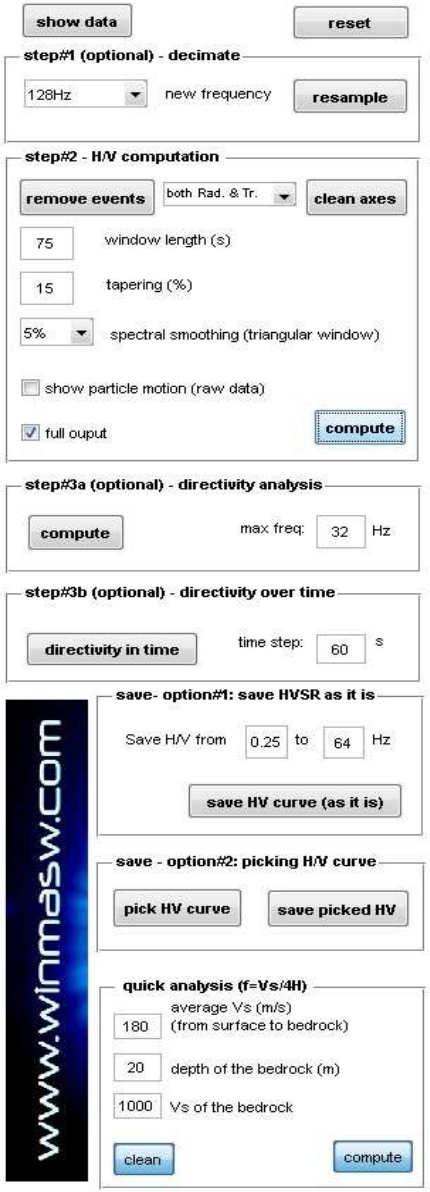
#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

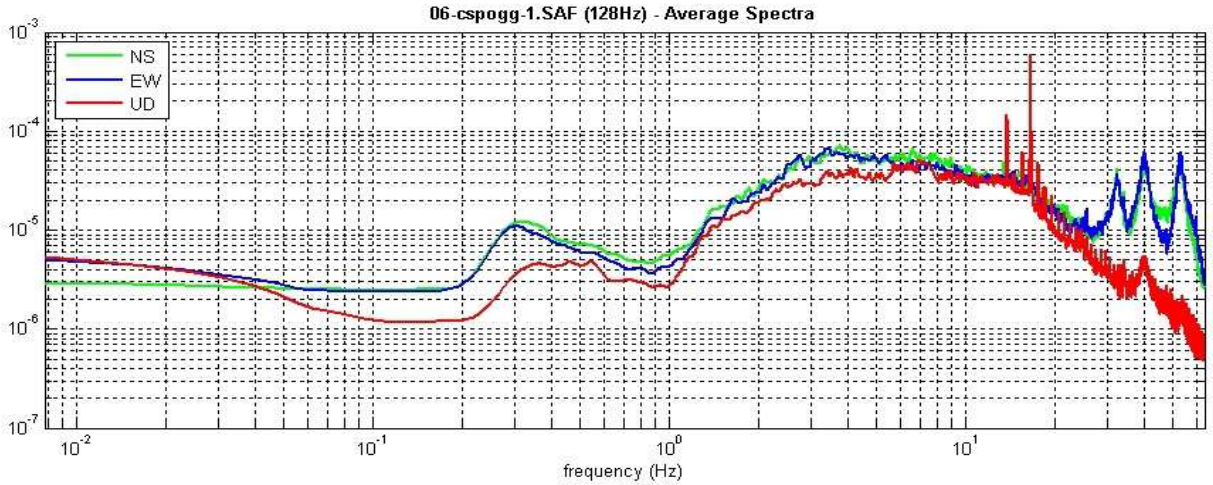
#5. [sigmaf < epsilon(f0)]: 0.077 > 0.055 (NO)

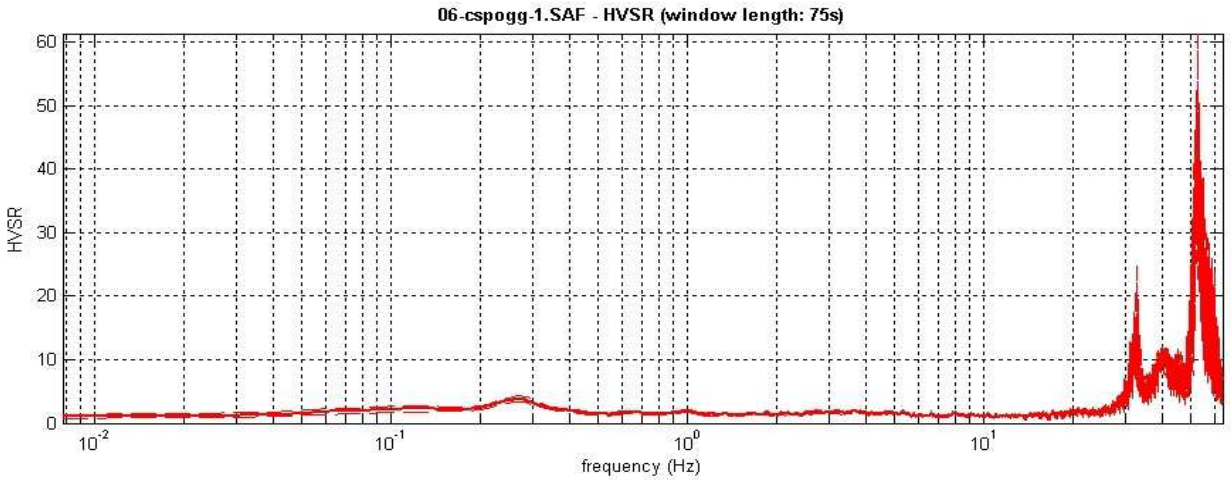
#6. [sigmaA(f0) < theta(f0)]: 0.446 < 2.5 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

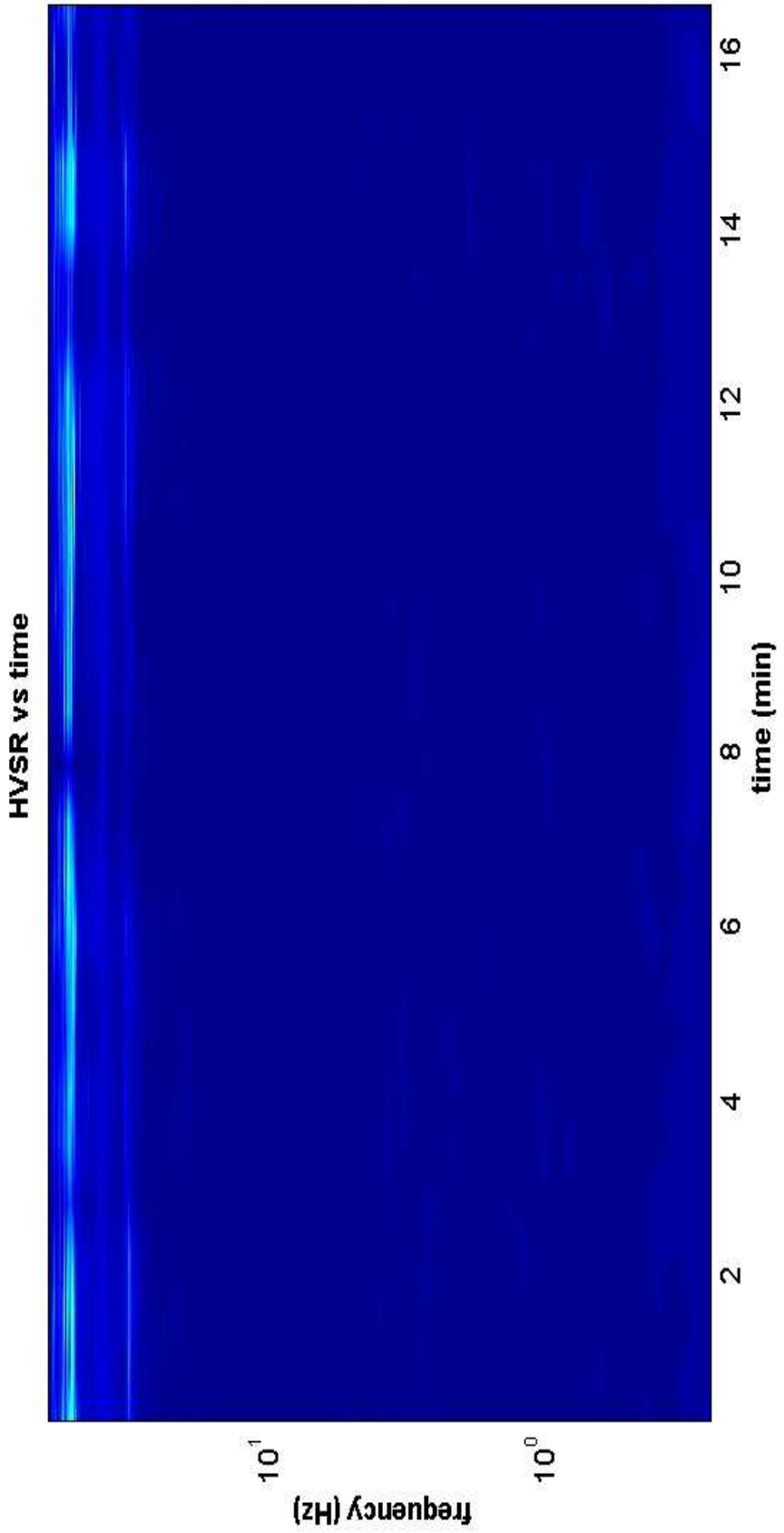
Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

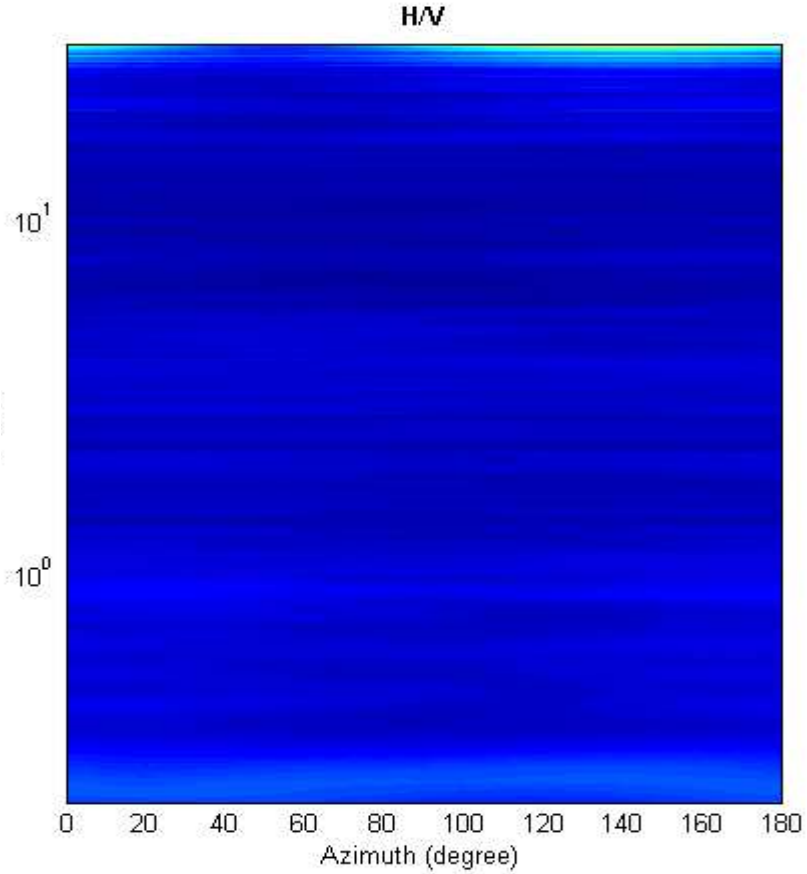


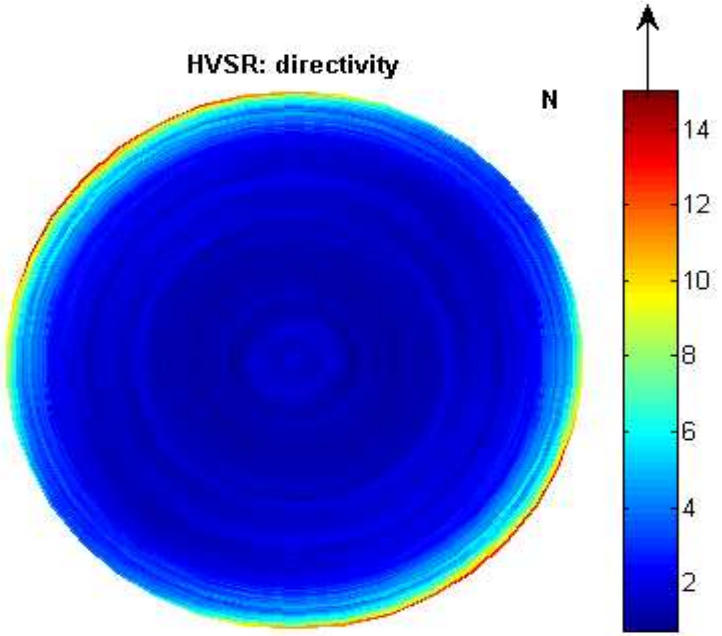




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^1
10^0
2
4
6
8
10
12
14
16
time (min)


H/V
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
14
12
10
8
6
4
2

Misura 17

Date: 9 8 2012

Time: 15 41

Dataset: 05-Cimitero-1.SAF

Sampling frequency (Hz): 128

Window length (sec): 50

Length of analysed temporal sequence (min): 23.9

Tapering (%): 5

==========

In the following the results considering the data in the 0.1-0.5Hz frequency range

Peak frequency (Hz): 0.3 (±0.1)

Peak HVSR value: 3.6 (±0.6)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 0.3 > 0.2 (OK)

#2. [nc > 200]: 788 > 200 (OK)

#3. [f0<0.5Hz; sigmaA(f) < 3 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: yes, at frequency 0.2Hz (OK)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 0.4Hz (OK)

#3. [A0 > 2]: 3.6 > 2 (OK)

#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (NO)

#5. [sigmaf < epsilon(f0)]: 0.052 < 0.056 (OK)

#6. [sigmaA(f0) < theta(f0)]: 0.595 < 2.5 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

show data | reset

step#1 (optional) - decimate

128Hz | new frequency | resample

step#2 - H/V computation

remove events | both Rad. & Tr. | clean axes

50 window length (s)

5 tapering (%)

5% spectral smoothing (triangular window)

show particle motion (raw data)

full ouput | compute

step#3a (optional) - directivity analysis

compute | max freq: 32 Hz

step#3b (optional) - directivity over time

directivity in time | time step: 60 s

www.winmasw.com

save- option#1: save HVSR as it is

Save H/V from 0.25 to 64 Hz

save HV curve (as it is)

save - option#2: picking H/V curve

pick HV curve | save picked HV

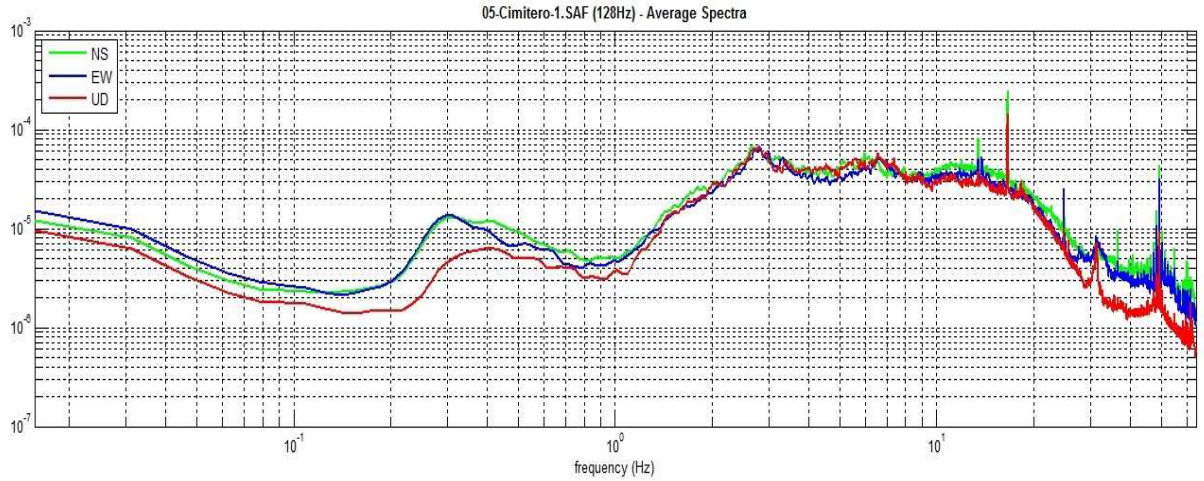
quick analysis (f=Vs/4H)

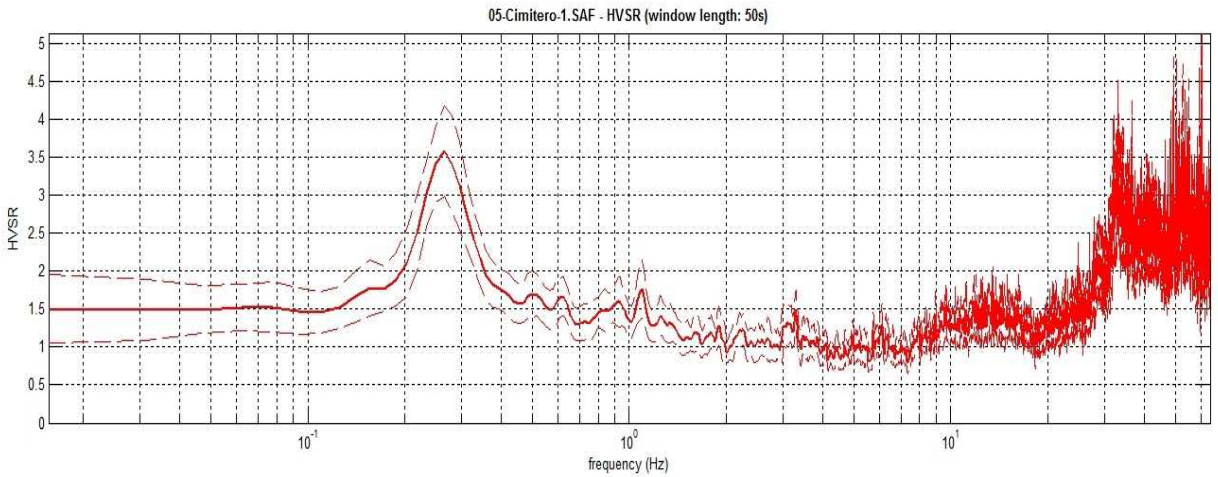
400 average Vs (m/s) (from surface to bedrock)

375 depth of the bedrock (m)

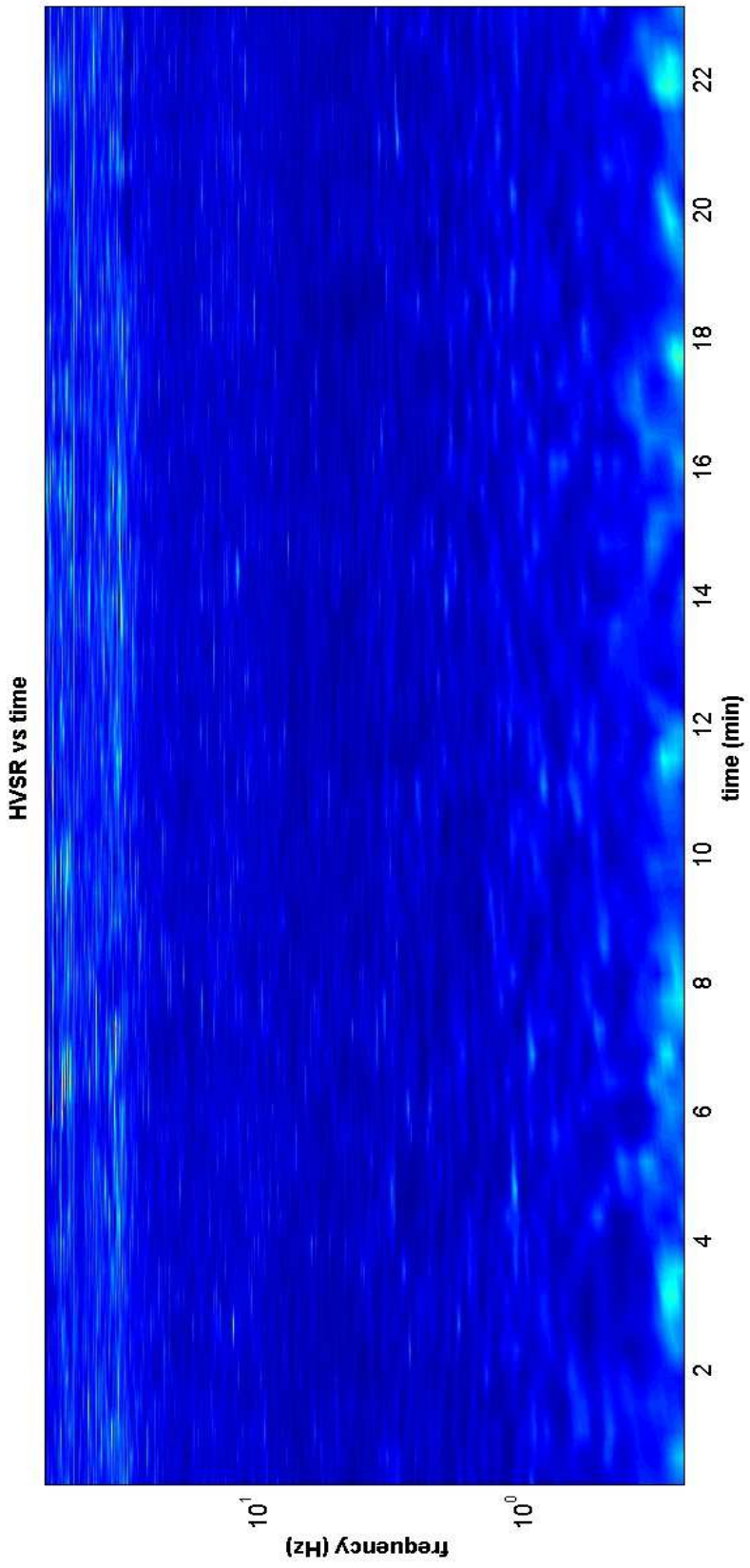
1250 Vs of the bedrock

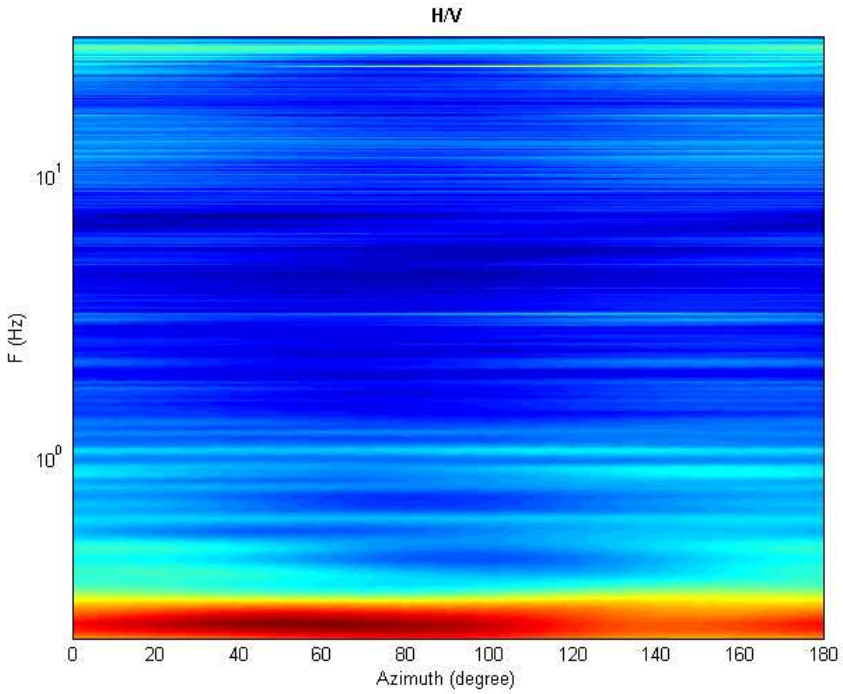
clean | compute

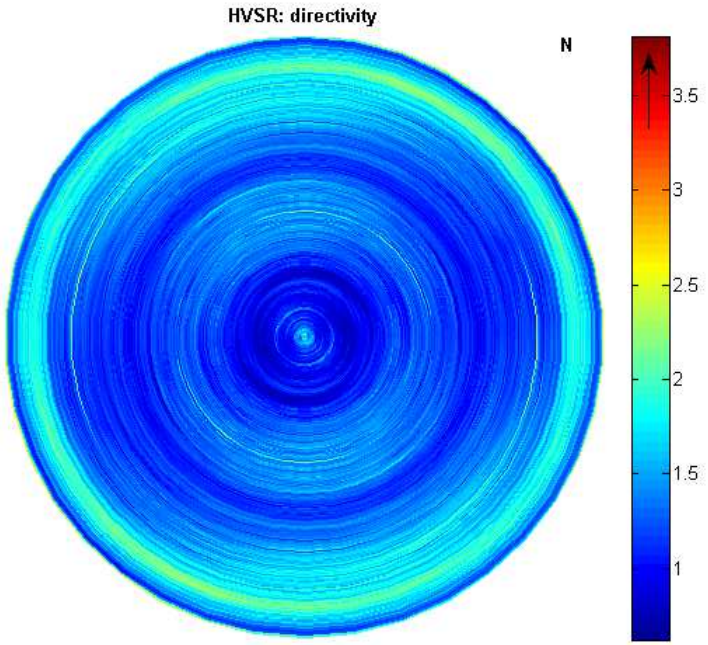




To model the HVSR (also jointly with MASW or ReMiESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^1
10^0
2
4
6
8
10
12
14
16
18
20
22
time (min)


H/V
F (Hz)
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
3.5
3
2.5
2
1.5
1

Misura 18

Date: 17 8 2012

Time: 11 31

Dataset: 34-artigianale-1.SAF

Sampling frequency (Hz): 128

Window length (sec): 40

Length of analysed temporal sequence (min): 30.0

Tapering (%): 10

==========

In the following the results considering the data in the 0.2-10.0Hz frequency range

Peak frequency (Hz): 0.5 (±0.5)

Peak HVSR value: 1.4 (±0.3)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 0.5 > 0.25 (OK)

#2. [nc > 200]: 1870 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: (NO)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 1.5Hz (OK)

#3. [A0 > 2]: 1.4 < 2 (NO)

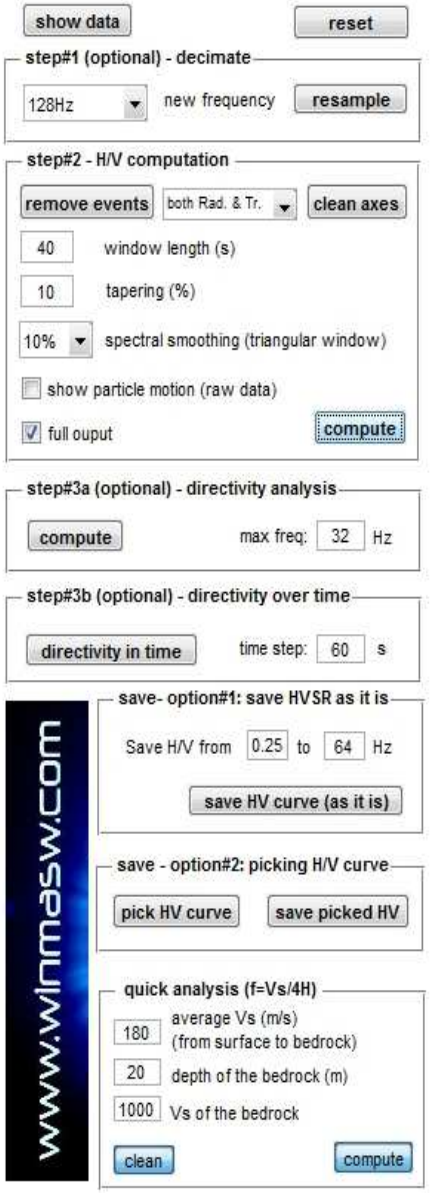
#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (NO)

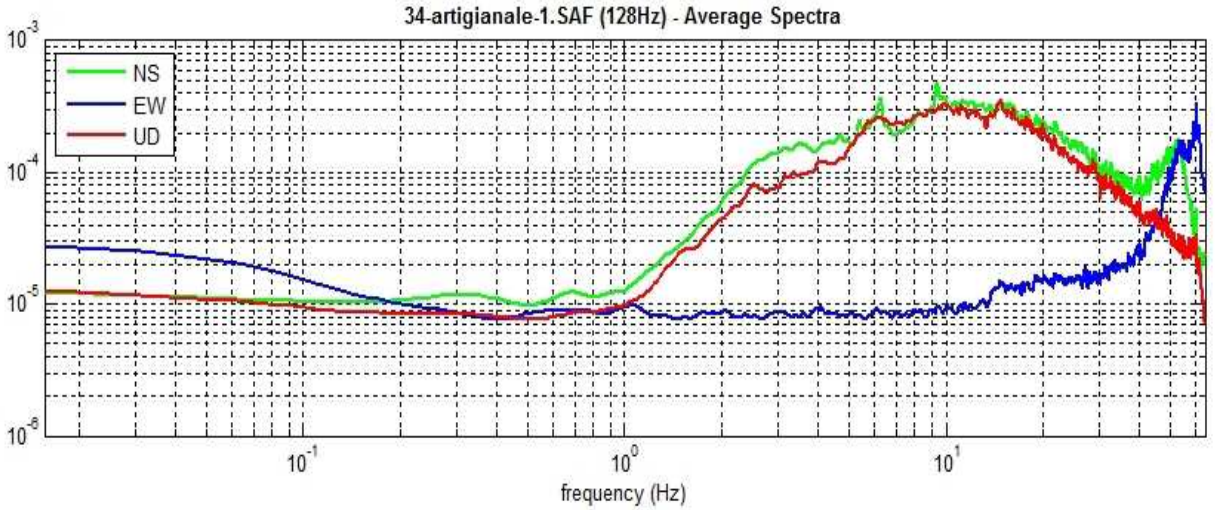
#5. [sigmaf < epsilon(f0)]: 0.486 > 0.080 (NO)

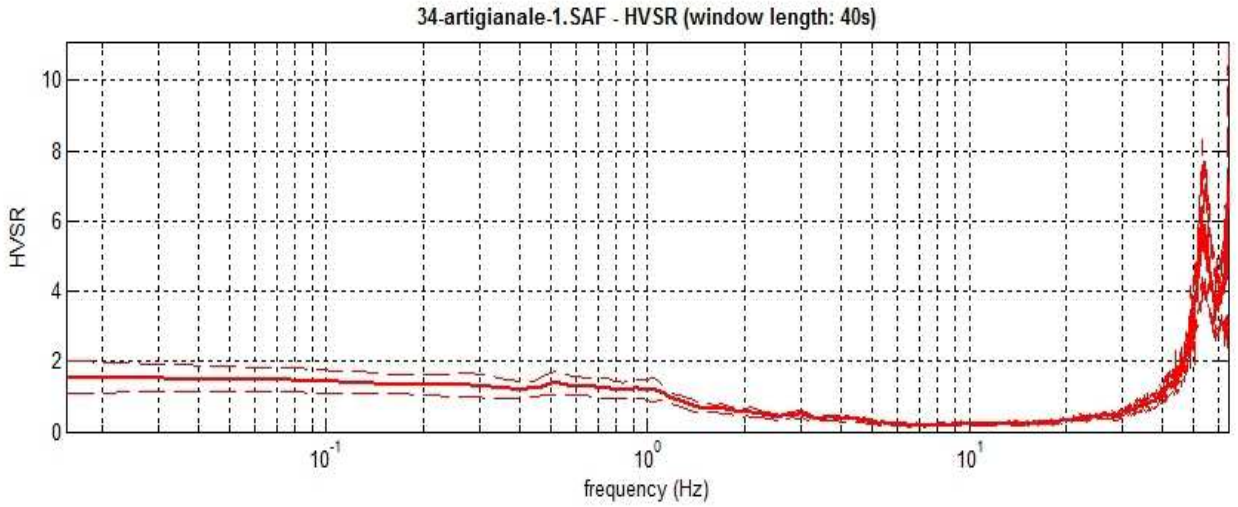
#6. [sigmaA(f0) < theta(f0)]: 0.333 < 2 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

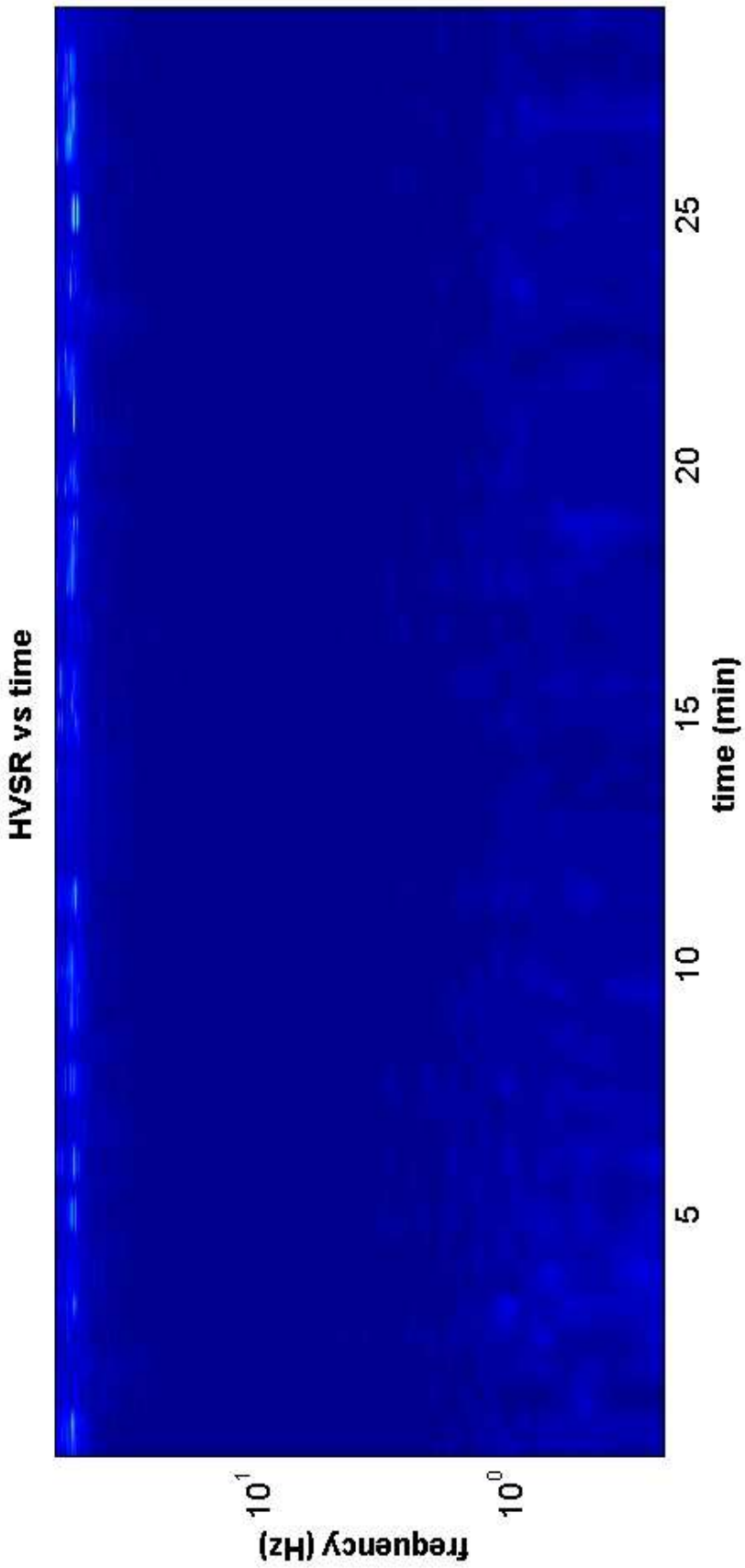
Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

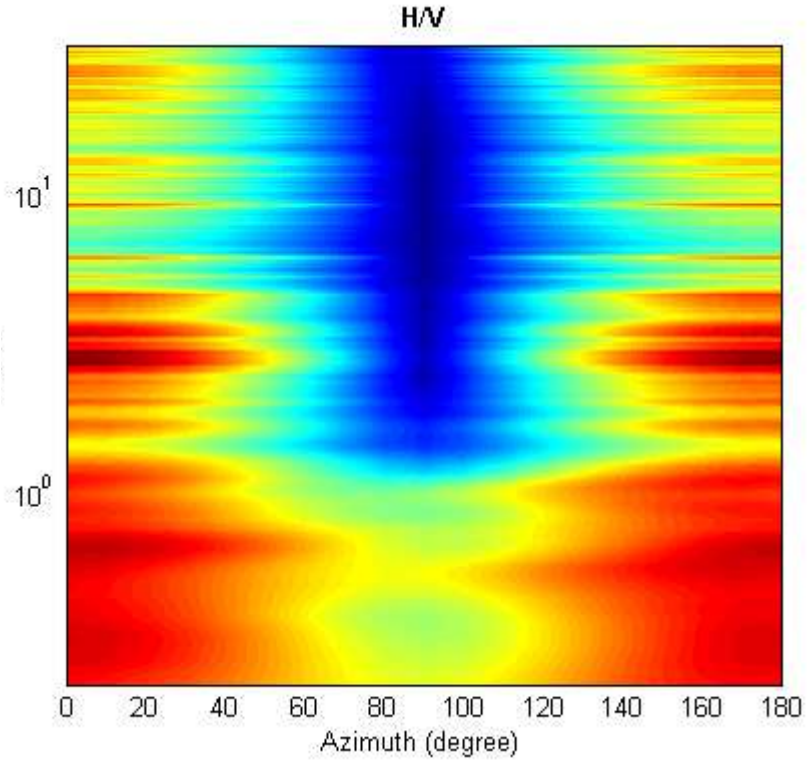


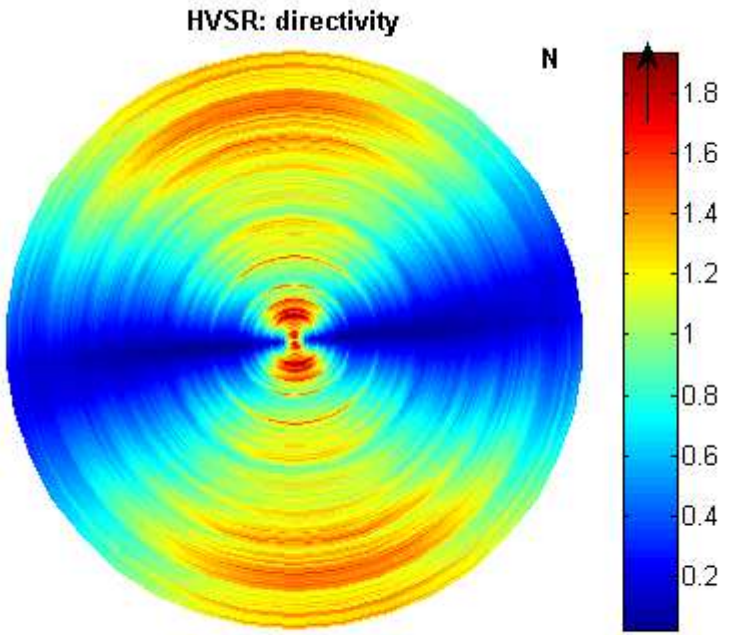




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^1
10^0
5
10
15
20
25
time (min)


H/V
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2

Misura 19

Date: 17 8 2012

Time: 9 46

Dataset: 33-inceneritore-1.SAF

Sampling frequency (Hz): 128

Window length (sec): 60

Length of analysed temporal sequence (min): 18.5

Tapering (%): 20

==========

In the following the results considering the data in the 1.1-5.6Hz frequency range

Peak frequency (Hz): 3.1 (±1.0)

Peak HVSR value: 2.2 (±0.5)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 3.1 > 0.16667 (OK)

#2. [nc > 200]: 6433 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: yes, at frequency 1.2Hz (OK)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 5.5Hz (OK)

#3. [A0 > 2]: 2.2 > 2 (OK)

#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

#5. [sigmaf < epsilon(f0)]: 1.003 > 0.153 (NO)

#6. [sigmaA(f0) < theta(f0)]: 0.458 < 1.58 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

show data | reset

step#1 (optional) - decimate

128Hz | new frequency | resample

step#2 - H/V computation

remove events | both Rad. & Tr. | clean axes

60 window length (s)

20 tapering (%)

5% spectral smoothing (triangular window)

☐ show particle motion (raw data)

☑ full ouput | compute

step#3a (optional) - directivity analysis

compute | max freq: 32 Hz

step#3b (optional) - directivity over time

directivity in time | time step: 60 s

www.winmasw.com

save- option#1: save HVSR as it is

Save H/V from 0.25 to 64 Hz

save HV curve (as it is)

save - option#2: picking H/V curve

pick HV curve | save picked HV

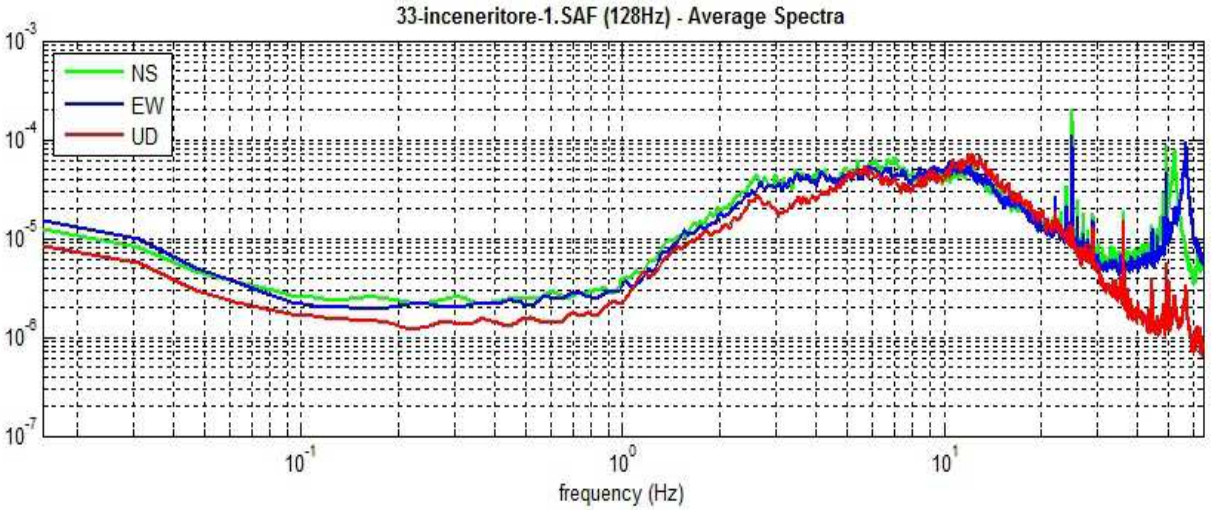
quick analysis (f=Vs/4H)

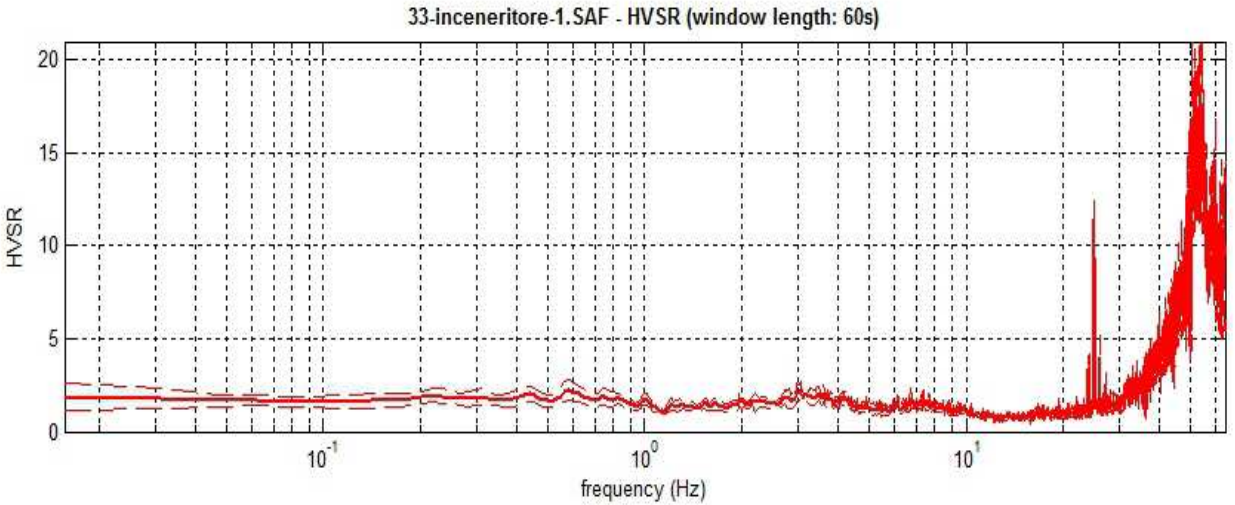
180 average Vs (m/s) (from surface to bedrock)

20 depth of the bedrock (m)

1000 Vs of the bedrock

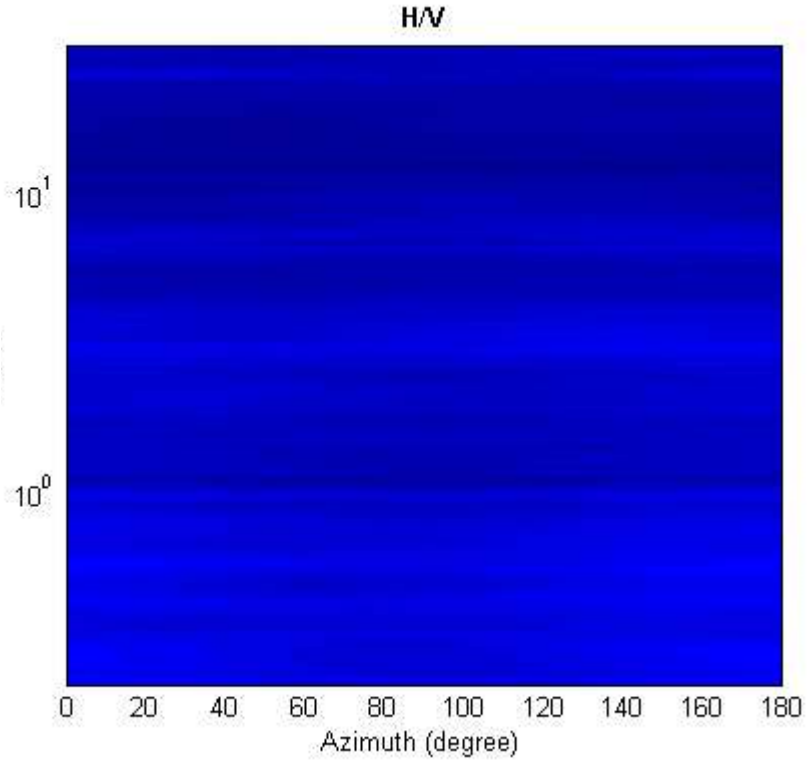
clean | compute

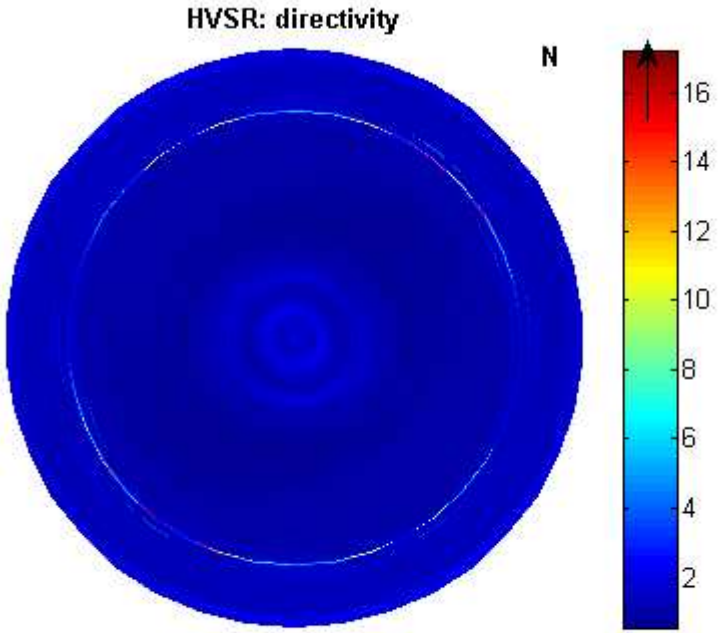




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve

HVSR vs time
frequency (Hz)
10^1
10^0
2
4
6
8
10
12
14
16
time (min)


H/V
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
16
14
12
10
8
6
4
2

Misura 20

Date: 28 8 2012

Time: 14 57

Dataset: 04-scala.SAF

Sampling frequency (Hz): 128

Window length (sec): 65

Length of analysed temporal sequence (min): 19.4

Tapering (%): 5

==========

In the following the results considering the data in the 0.1-0.7Hz frequency range

Peak frequency (Hz): 0.4 (±0.1)

Peak HVSR value: 2.9 (±0.5)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 0.4 > 0.15385 (OK)

#2. [nc > 200]: 932 > 200 (OK)

#3. [f0<0.5Hz; sigmaA(f) < 3 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: yes, at frequency 0.2Hz (OK)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 0.7Hz (OK)

#3. [A0 > 2]: 2.9 > 2 (OK)

#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

#5. [sigmaf < epsilon(f0)]: 0.111 > 0.084 (NO)

#6. [sigmaA(f0) < theta(f0)]: 0.498 < 2.5 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

show data | reset

step#1 (optional) - decimate

128Hz | new frequency | resample

step#2 - H/V computation

remove events | both Rad. & Tr. | clean axes

65 window length (s)

5 tapering (%)

5% spectral smoothing (triangular window)

☐ show particle motion (raw data)

☑ full ouput | compute

step#3a (optional) - directivity analysis

compute | max freq: 32 Hz

step#3b (optional) - directivity over time

directivity in time | time step: 60 s

www.winmasw.com

save- option#1: save HVSR as it is

Save H/V from 0.25 to 64 Hz

save HV curve (as it is)

save - option#2: picking H/V curve

pick HV curve | save picked HV

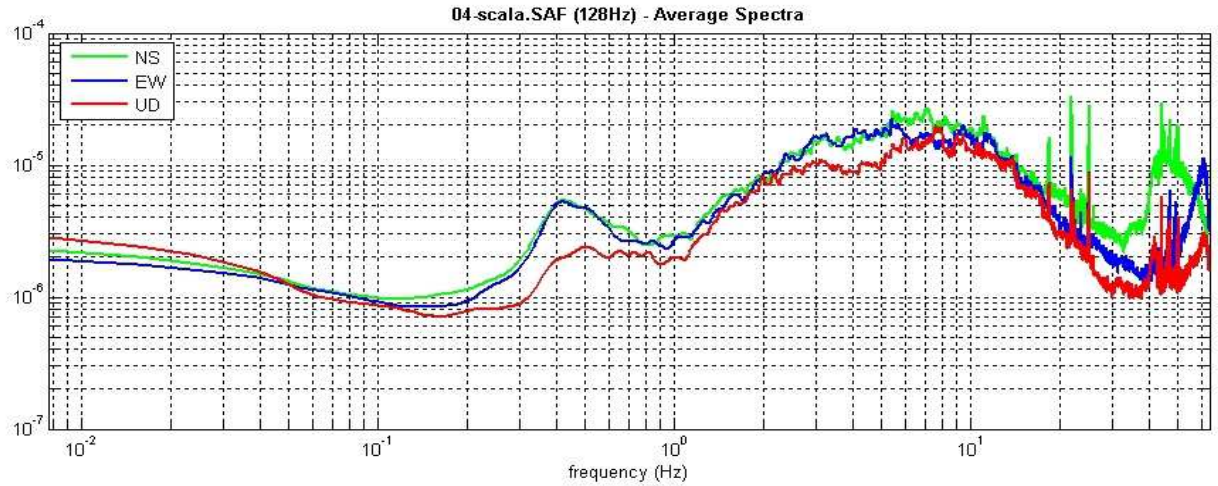
quick analysis (f=Vs/4H)

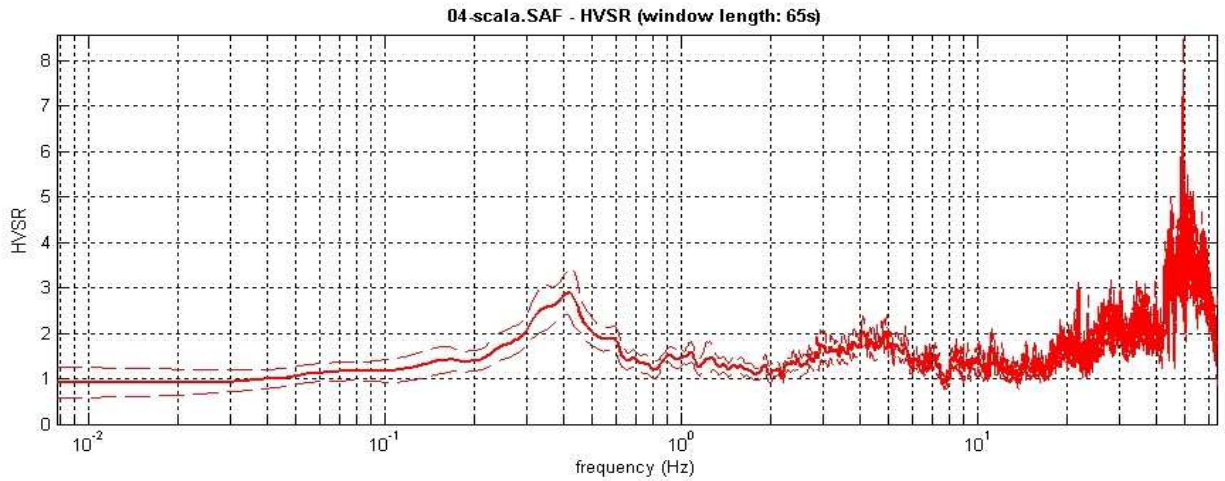
180 average Vs (m/s) (from surface to bedrock)

20 depth of the bedrock (m)

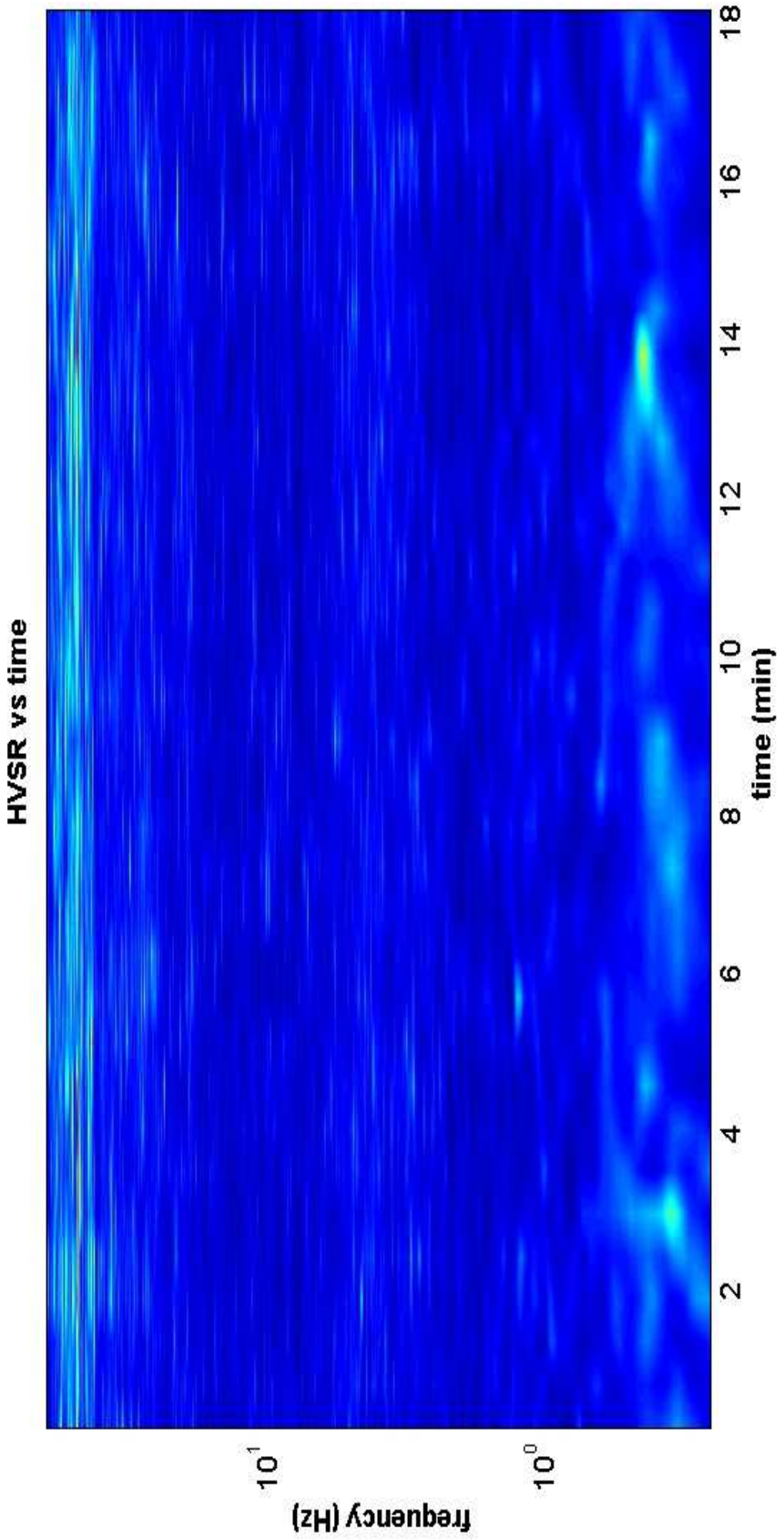
1000 Vs of the bedrock

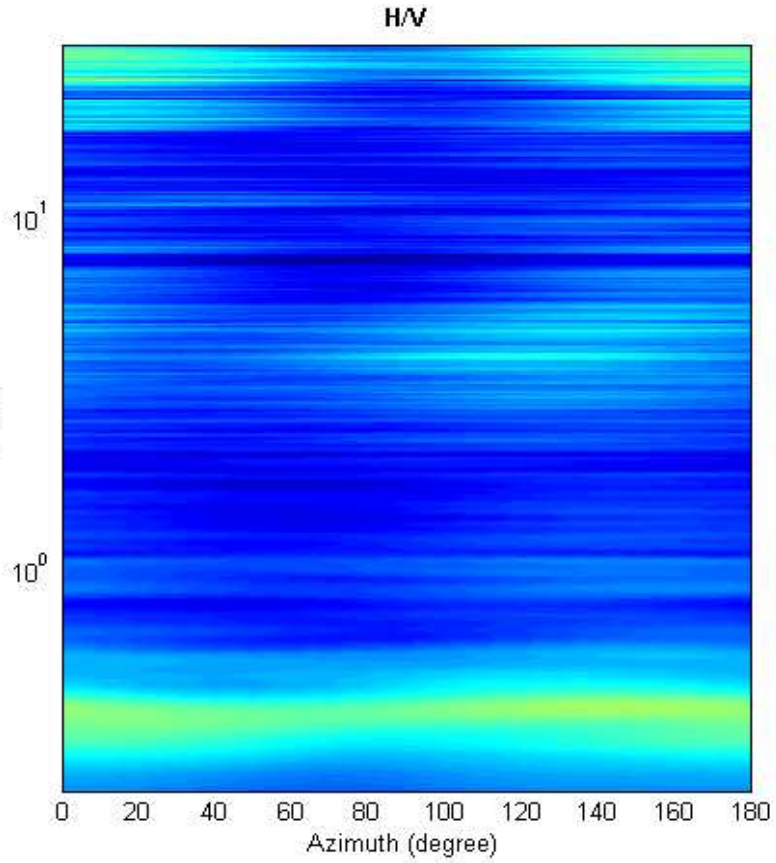
clean | compute

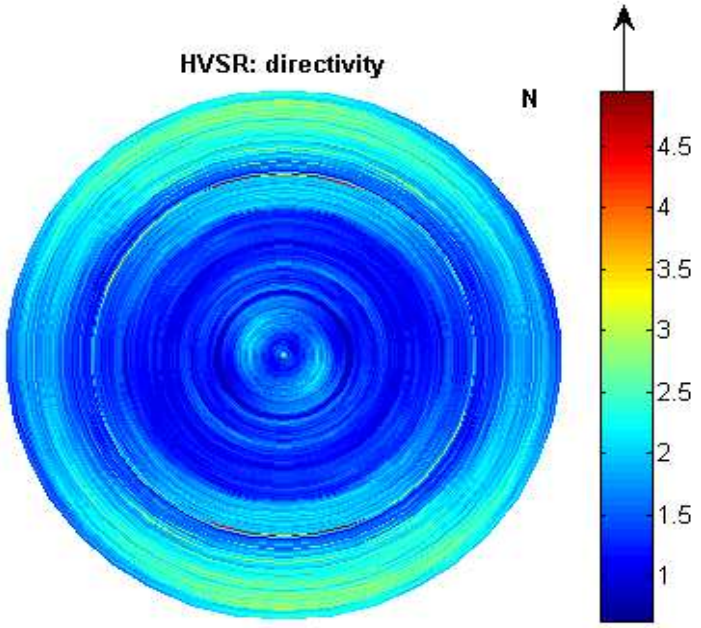




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^1
10^0
2
4
6
8
10
12
14
16
18
time (min)


H/V
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
4.5
4
3.5
3
2.5
2
1.5
1

Misura 21

Date: 28 8 2012

Time: 16 27

Dataset: 20-fortezza.SAF

Sampling frequency (Hz): 128

Window length (sec): 100

Length of analysed temporal sequence (min): 24.4

Tapering (%): 5

==========

In the following the results considering the data in the 0.1-1.0Hz frequency range

Peak frequency (Hz): 0.3 (±0.2)

Peak HVSR value: 2.3 (±0.3)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 0.3 > 0.1 (OK)

#2. [nc > 200]: 700 > 200 (OK)

#3. [f0<0.5Hz; sigmaA(f) < 3 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: (NO)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: (NO)

#3. [A0 > 2]: 2.3 > 2 (OK)

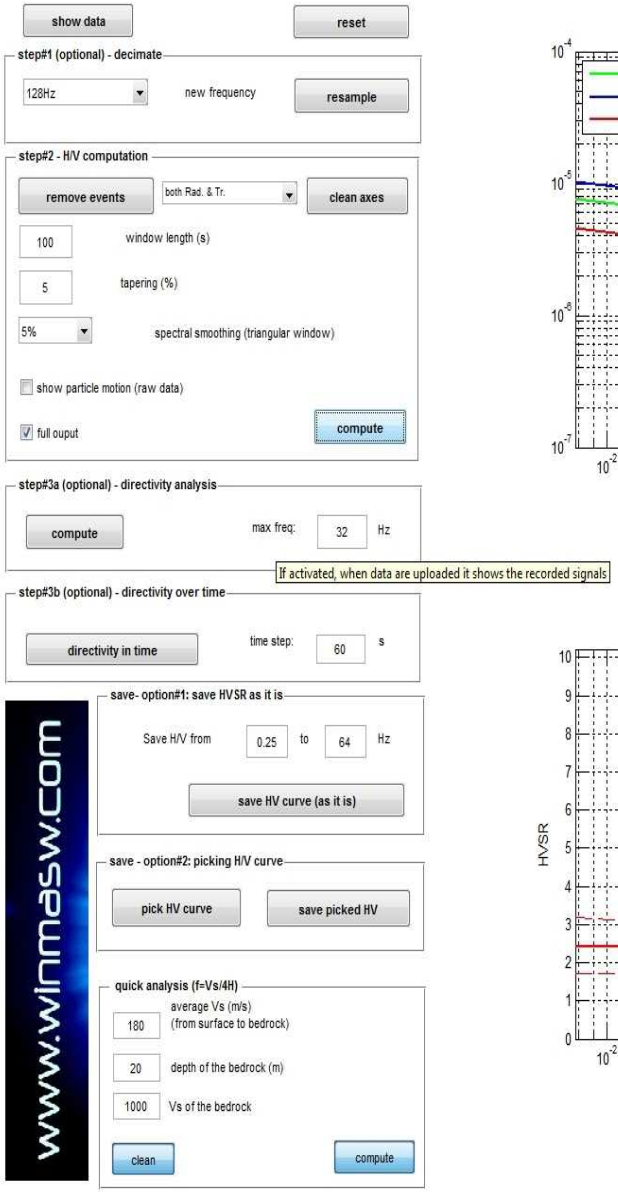
#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (NO)

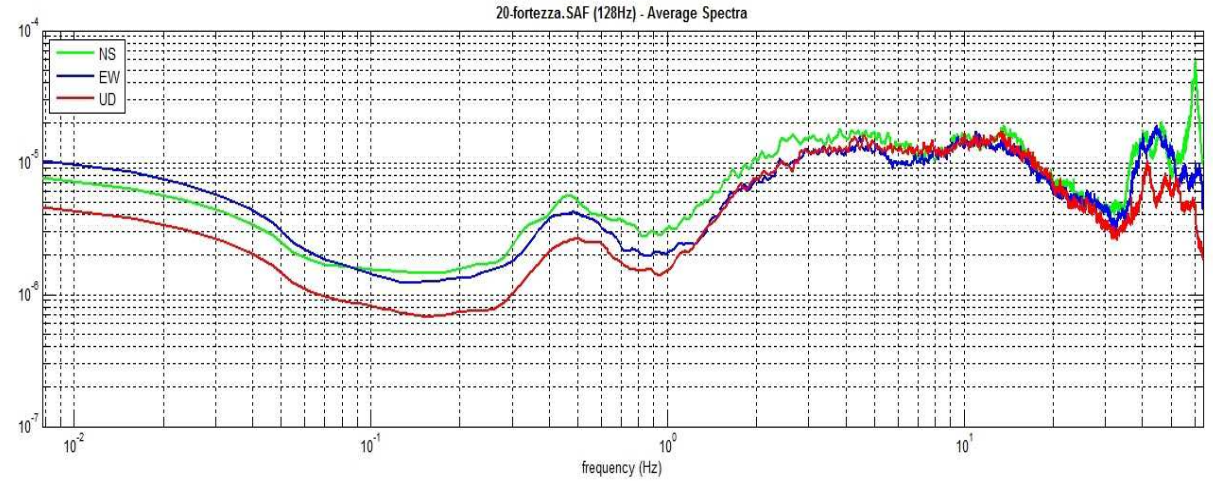
#5. [sigmaf < epsilon(f0)]: 0.226 > 0.050 (NO)

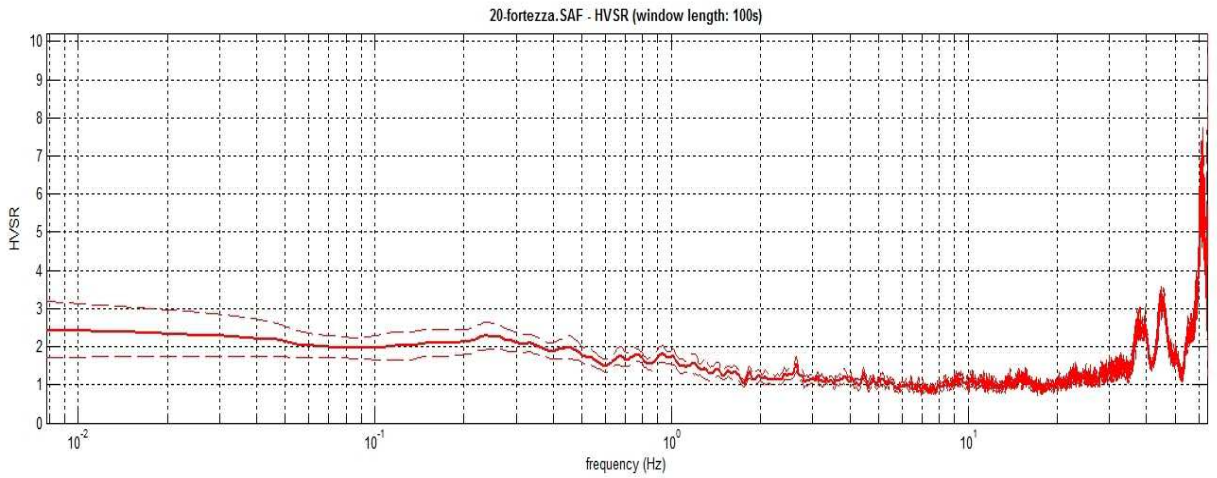
#6. [sigmaA(f0) < theta(f0)]: 0.351 < 2.5 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

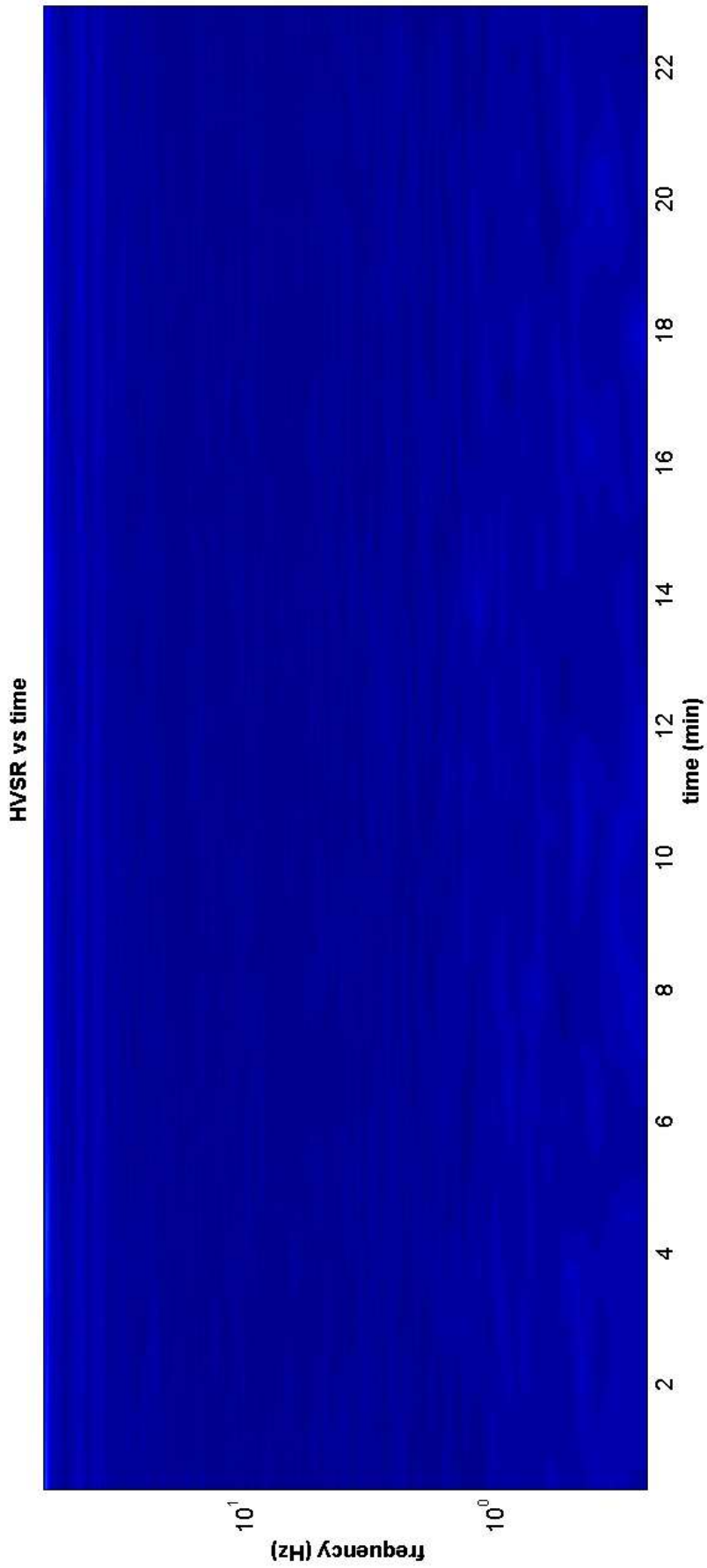
Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

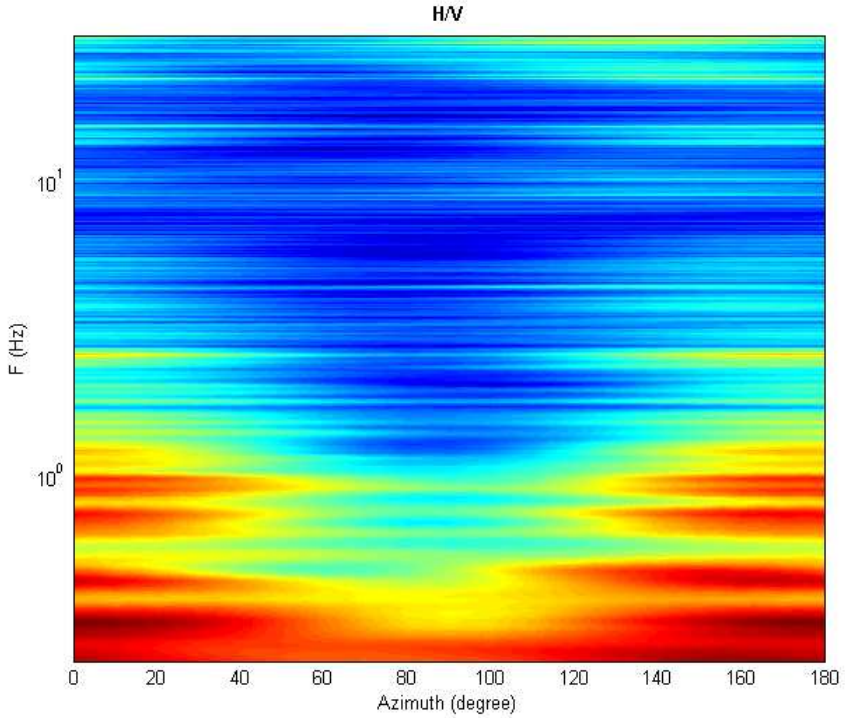


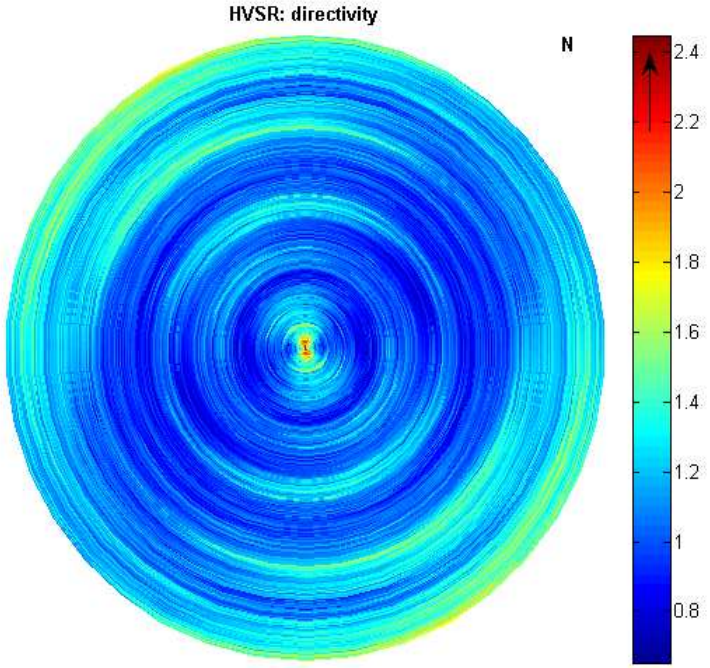




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^1
10^0
2
4
6
8
10
12
14
16
18
20
22
time (min)


H/V
F (Hz)
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8

Misura 22

Date: 10 8 2012

Time: 14 44

Dataset: 17-salceto-2.SAF

Sampling frequency (Hz): 200

Window length (sec): 40

Length of analysed temporal sequence (min): 30.0

Tapering (%): 10

==========

In the following the results considering the data in the 0.5-20.0Hz frequency range

Peak frequency (Hz): 0.6 (±2.4)

Peak HVSR value: 0.7 (±0.1)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 0.6 > 0.25 (OK)

#2. [nc > 200]: 1977 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: (NO)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 1.3Hz (OK)

#3. [A0 > 2]: 0.7 < 2 (NO)

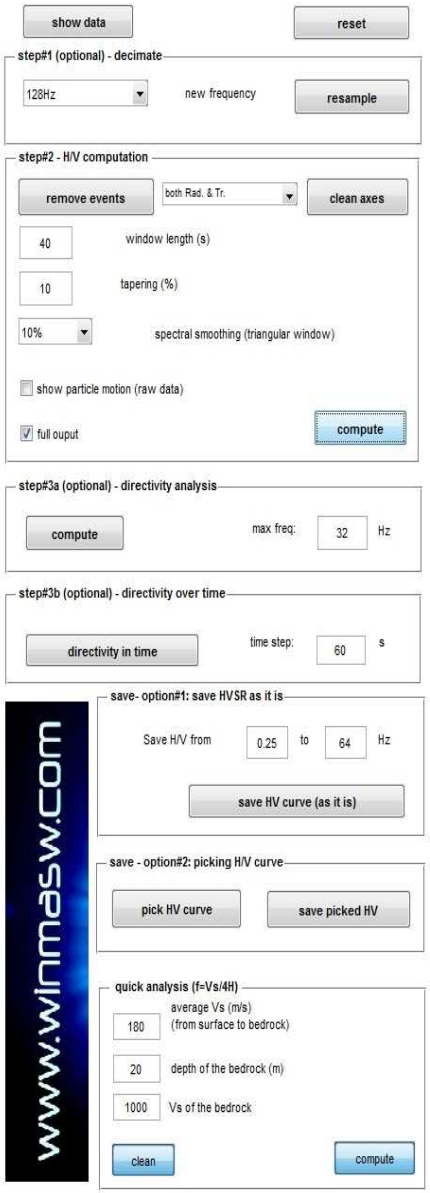
#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (NO)

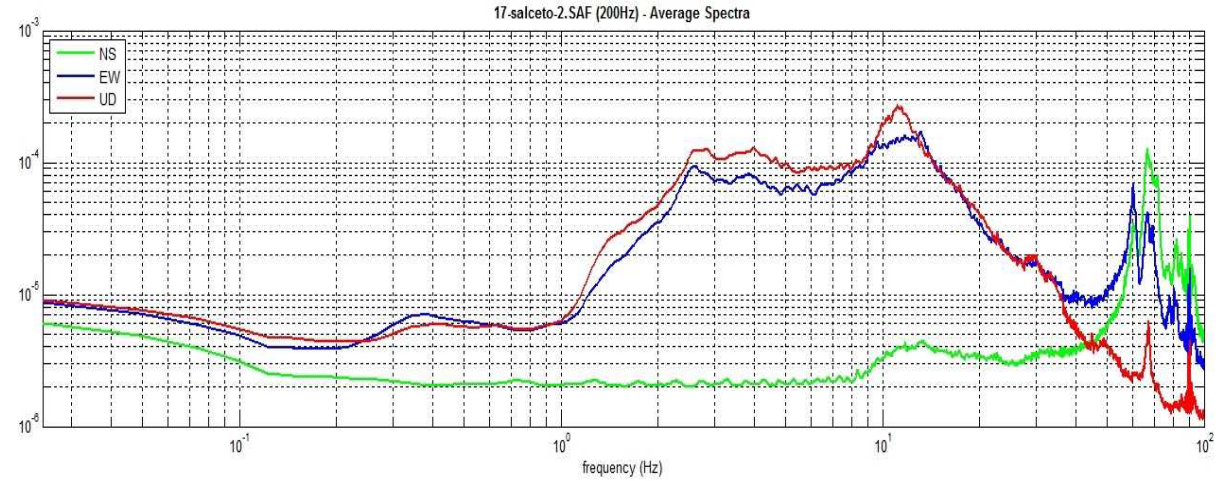
#5. [sigmaf < epsilon(f0)]: 2.421 > 0.084 (NO)

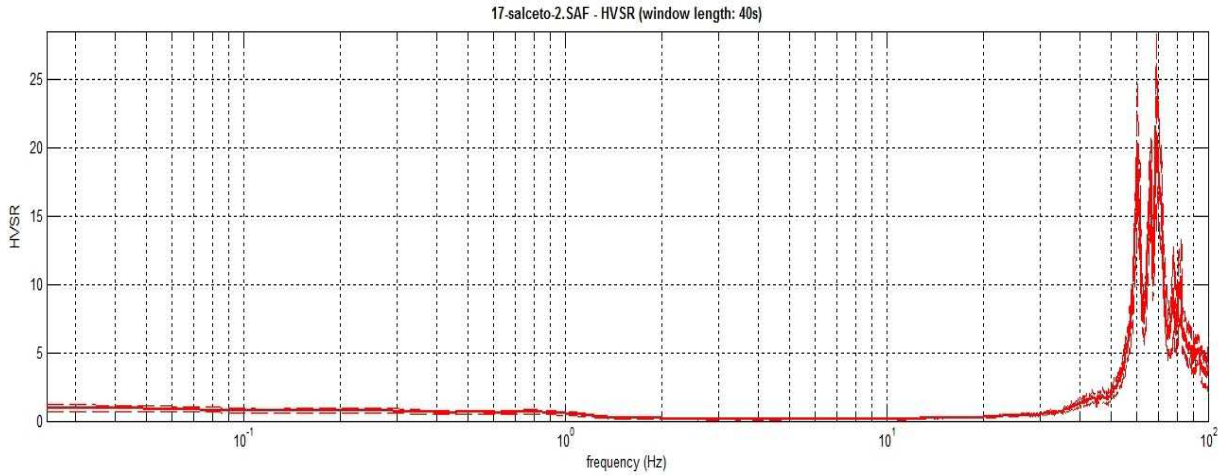
#6. [sigmaA(f0) < theta(f0)]: 0.141 < 2 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

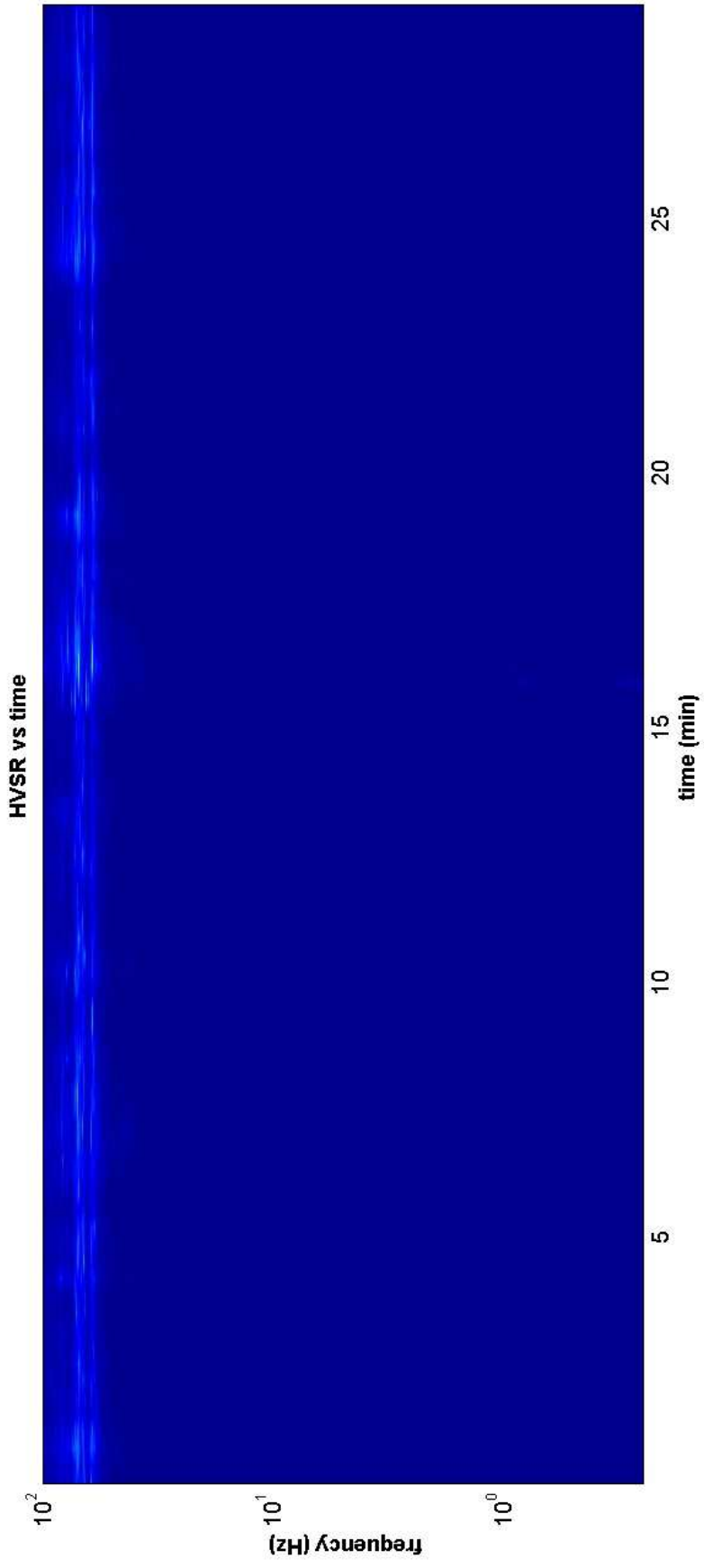
Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

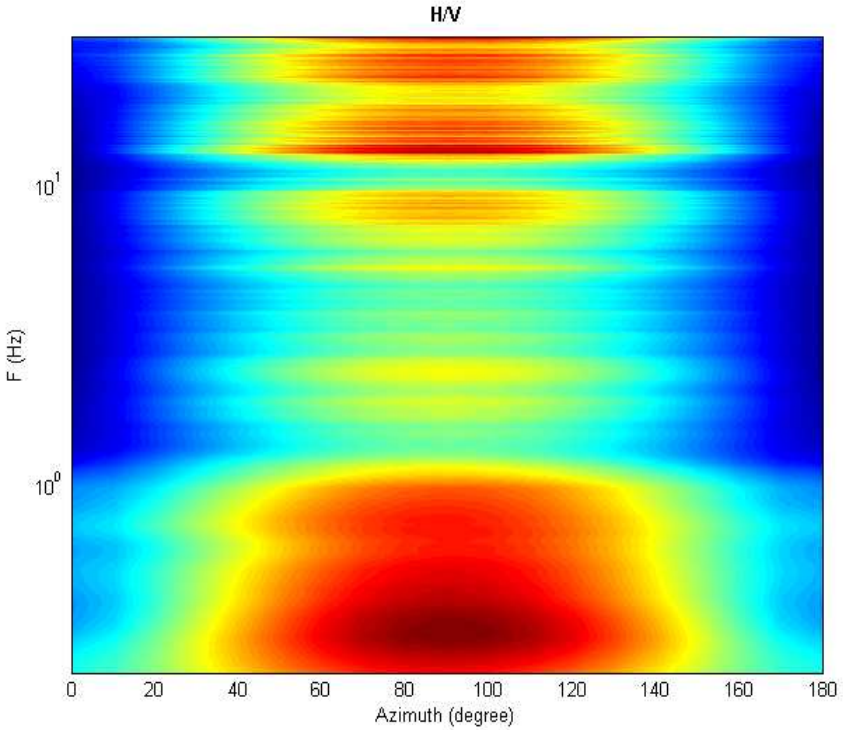


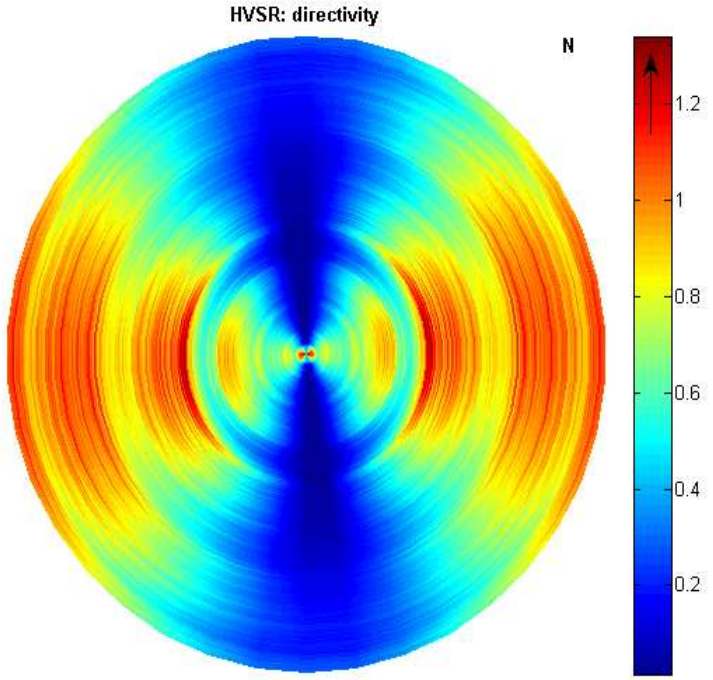




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
time (min)
10^{2}
10^{1}
10^{0}
5
10
15
20
25


H/V
F (Hz)
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
1.2
1
0.8
0.6
0.4
0.2

Misura 23

Date: 10 8 2012

Time: 12 47

Dataset: 16-talciona-2.SAF

Sampling frequency (Hz): 128

Window length (sec): 60

Length of analysed temporal sequence (min): 18.6

Tapering (%): 5

==========

In the following the results considering the data in the 0.1-1.1Hz frequency range

Peak frequency (Hz): 0.7 (±0.1)

Peak HVSR value: 3.1 (±0.3)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 0.7 > 0.16667 (OK)

#2. [nc > 200]: 1553 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: yes, at frequency 0.2Hz (OK)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: (NO)

#3. [A0 > 2]: 3.1 > 2 (OK)

#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

#5. [sigmaf < epsilon(f0)]: 0.106 < 0.108 (OK)

#6. [sigmaA(f0) < theta(f0)]: 0.342 < 2 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

show data | reset

step#1 (optional) - decimate

128Hz | new frequency | resample

step#2 - H/V computation

remove events | both Rad. & Tr. | clean axes

60 window length (s)

5 tapering (%)

10% spectral smoothing (triangular window)

☐ show particle motion (raw data)

☑ full ouput | compute

step#3a (optional) - directivity analysis

compute | max freq: 32 Hz

step#3b (optional) - directivity over time

directivity in time | time step: 60 s

www.winmasw.com

save- option#1: save HVSR as it is

Save H/V from 0.25 to 64 Hz

save HV curve (as it is)

save - option#2: picking H/V curve

pick HV curve | save picked HV

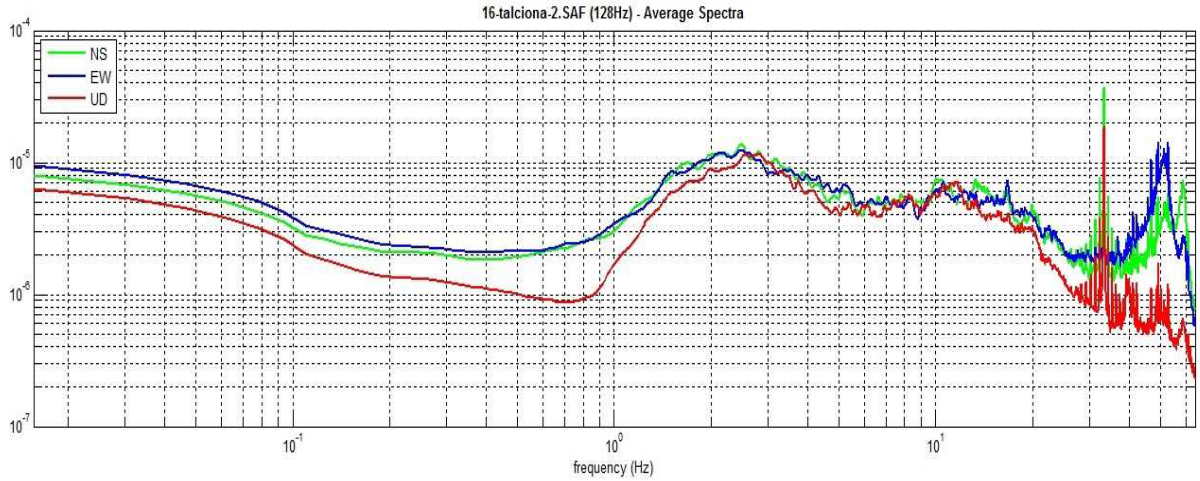
quick analysis (f=Vs/4H)

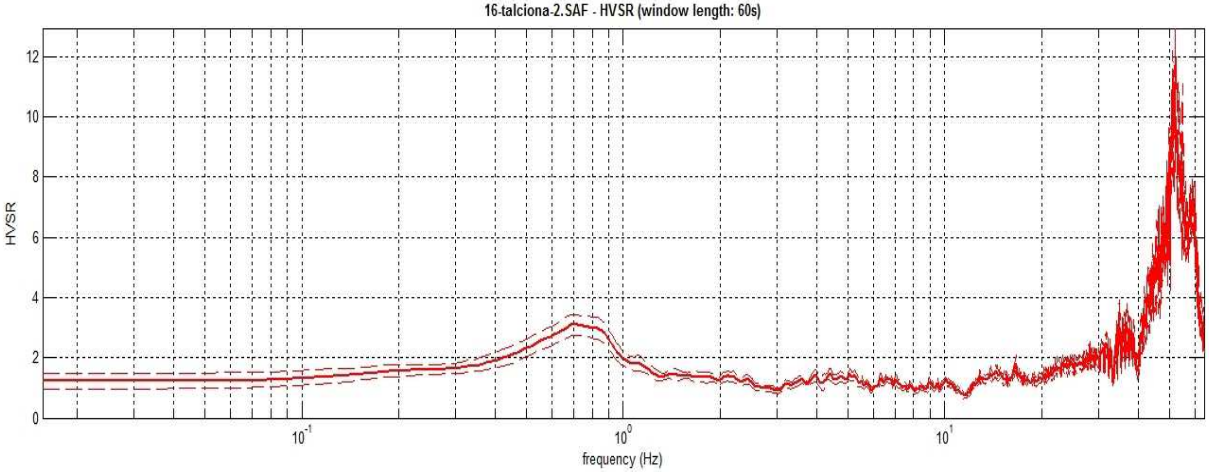
180 average Vs (m/s) (from surface to bedrock)

20 depth of the bedrock (m)

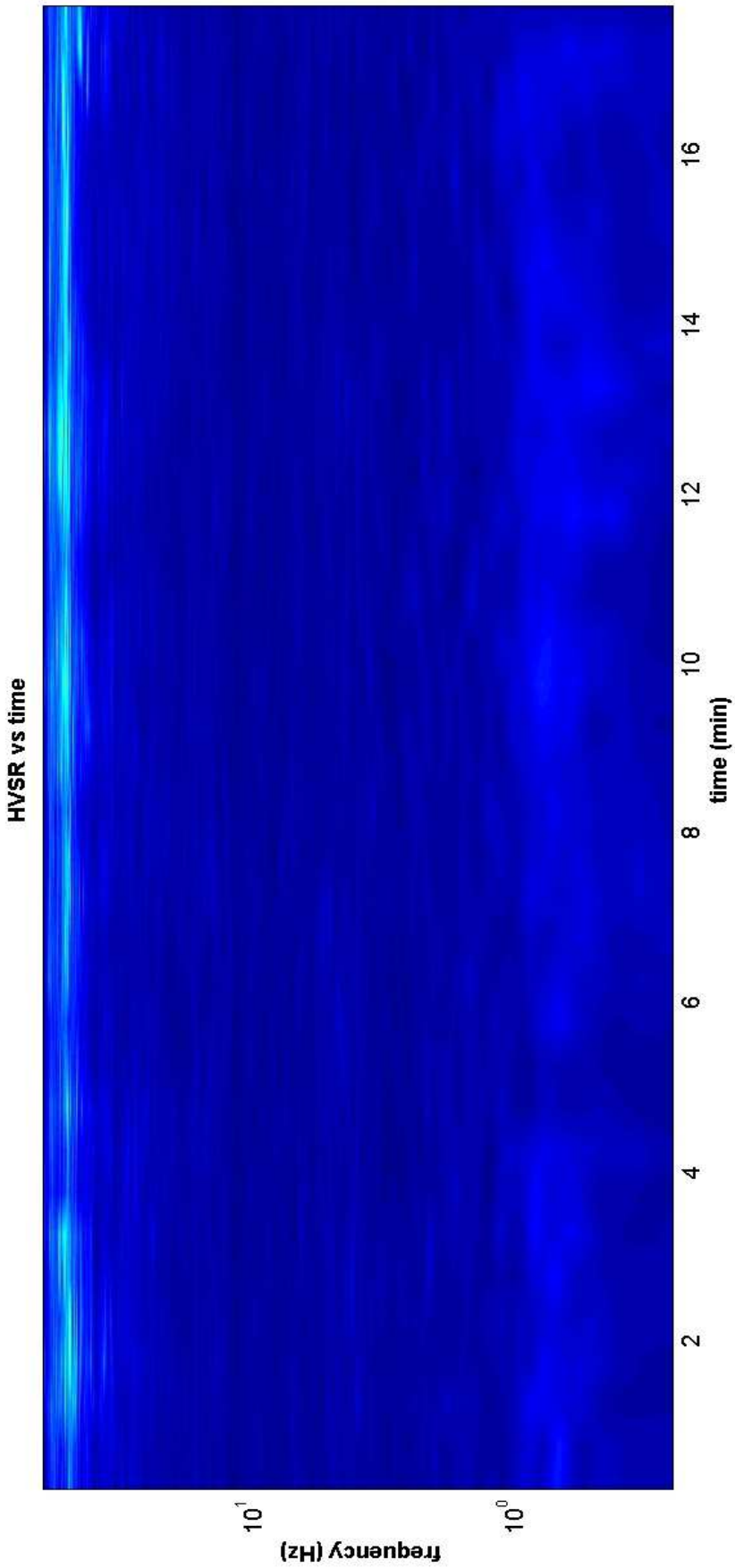
1000 Vs of the bedrock

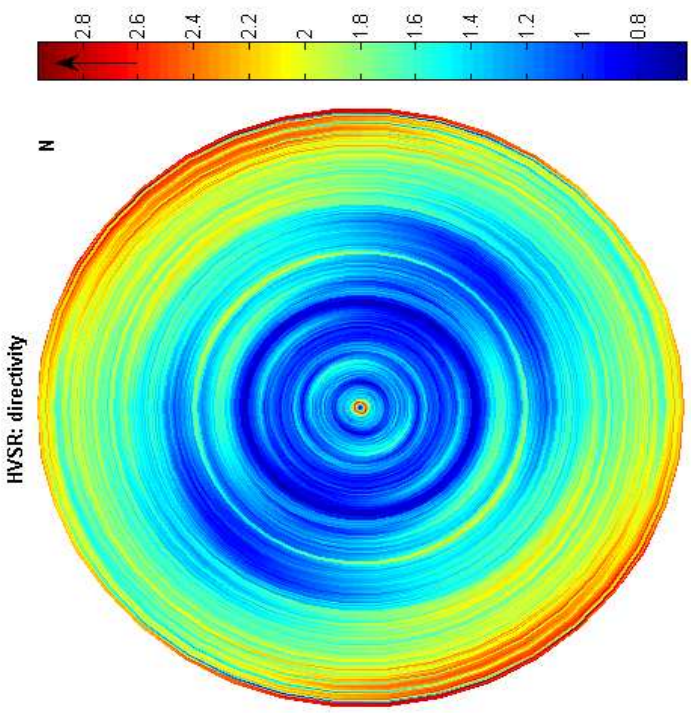
clean | compute

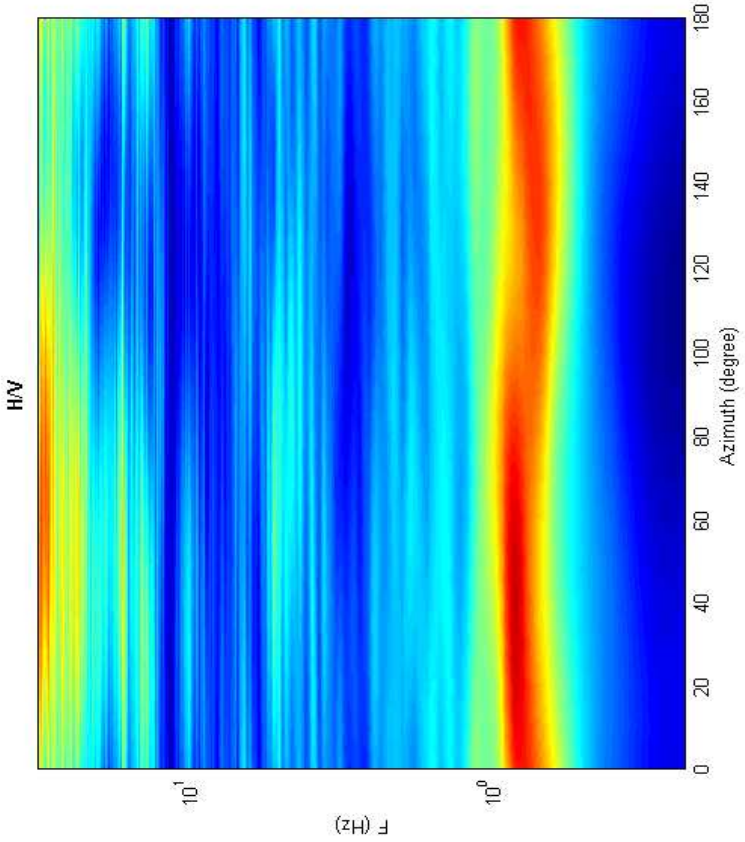




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^{1}
10^{0}
2
4
6
8
10
12
14
16
time (min)


HVSR: directivity
N
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8


H/V
F (Hz)
10^{1}
10^{0}
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)

Misura 24

Date: 17 8 2012

Time: 14 41

Dataset: 37-nenni-1.SAF

Sampling frequency (Hz): 128

Window length (sec): 40

Length of analysed temporal sequence (min): 17.0

Tapering (%): 10

==========

In the following the results considering the data in the 0.2-20.0Hz frequency range

Peak frequency (Hz): 1.0 (±4.1)

Peak HVSR value: 1.3 (±0.2)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 1.0 > 0.25 (OK)

#2. [nc > 200]: 1869 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: (NO)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: (NO)

#3. [A0 > 2]: 1.3 < 2 (NO)

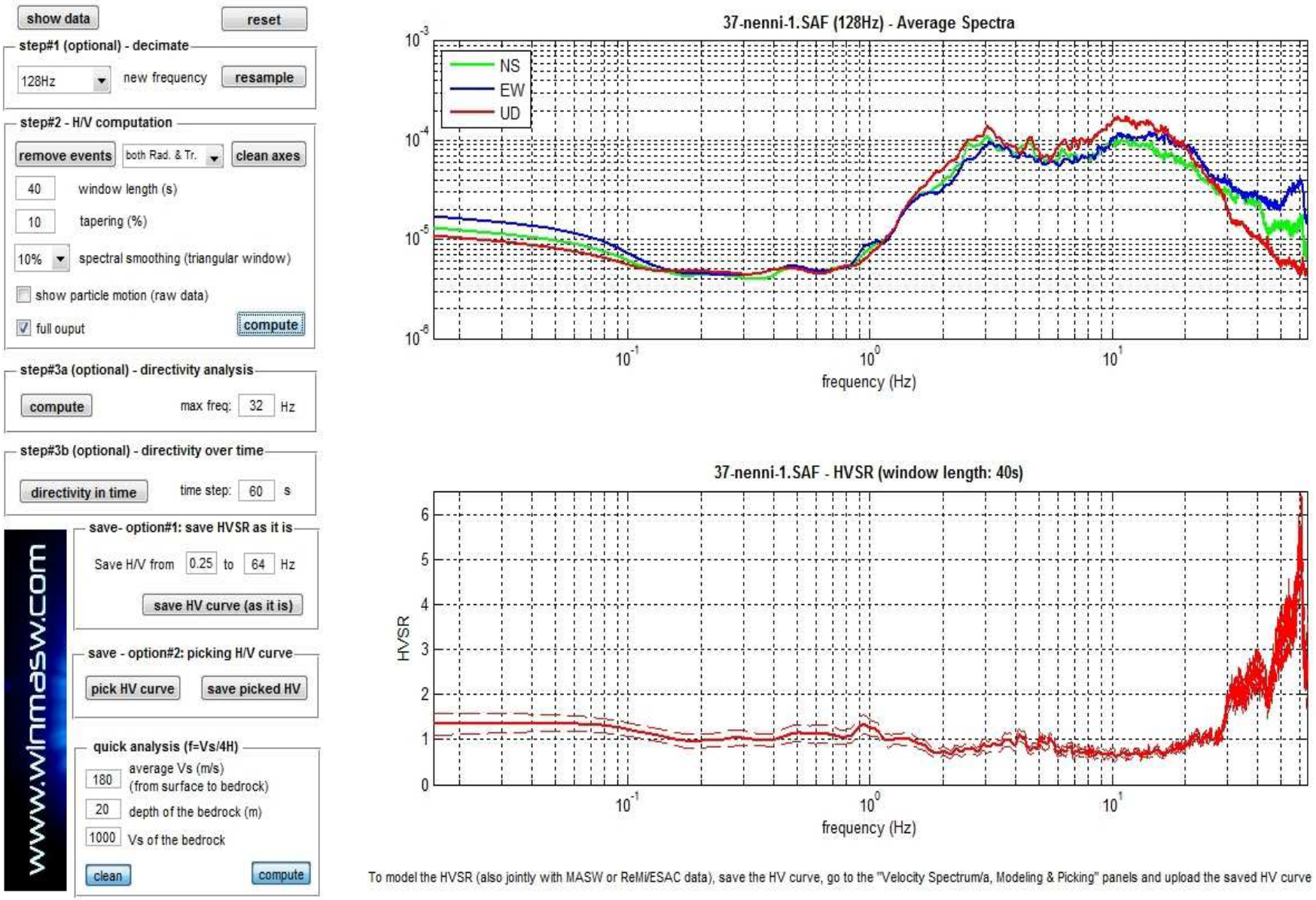
#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

#5. [sigmaf < epsilon(f0)]: 4.108 > 0.143 (NO)

#6. [sigmaA(f0) < theta(f0)]: 0.218 < 2 (OK)

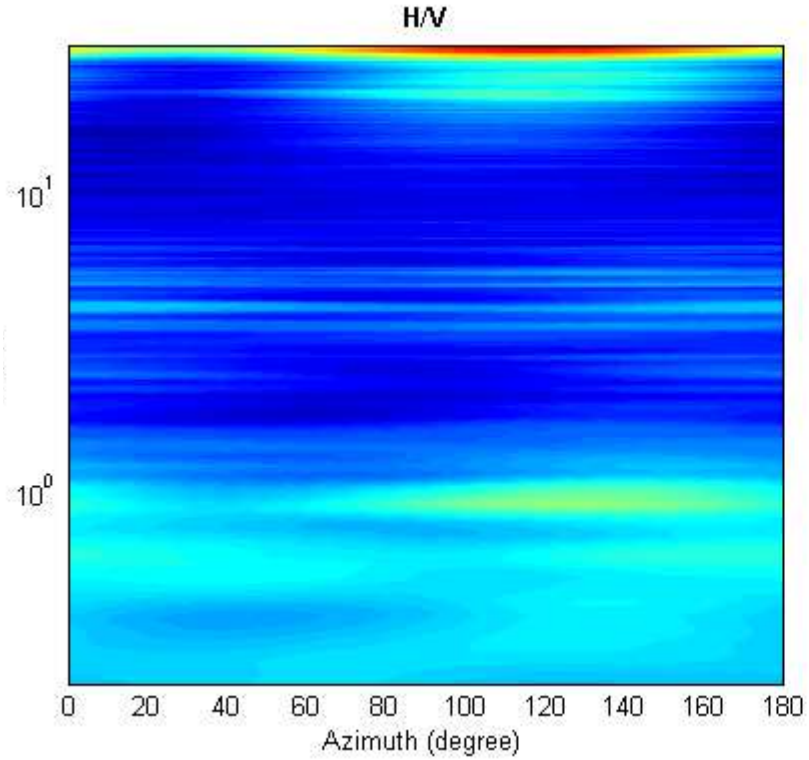
Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

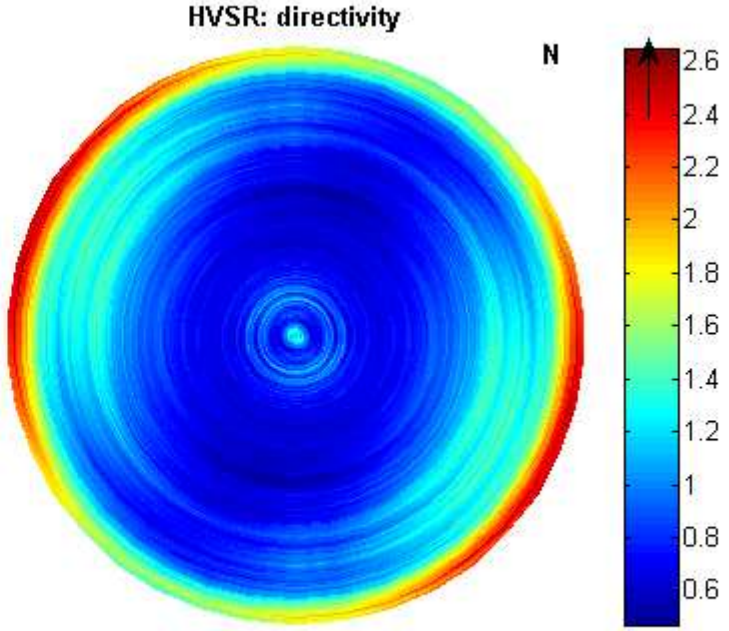
Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.



To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve

HVSR vs time
frequency (Hz)
10^{1}
10^{0}
2
4
6
8
10
12
14
16
time (min)


H/V
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6

Misura 25

Date: 13 8 2012

Time: 10 55

Dataset: 21-porta-fortezza-medicea-1.SAF

Sampling frequency (Hz): 128

Window length (sec): 40

Length of analysed temporal sequence (min): 30.0

Tapering (%): 10

==========

In the following the results considering the data in the 0.5-20.0Hz frequency range

Peak frequency (Hz): 0.5 (±6.6)

Peak HVSR value: 0.8 (±0.1)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 0.5 > 0.25 (OK)

#2. [nc > 200]: 1815 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: (NO)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 1.1Hz (OK)

#3. [A0 > 2]: 0.8 < 2 (NO)

#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

#5. [sigmaf < epsilon(f0)]: 6.606 > 0.077 (NO)

#6. [sigmaA(f0) < theta(f0)]: 0.123 < 2 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

show data | reset

step#1 (optional) - decimate

128Hz | new frequency | resample

step#2 - H/V computation

remove events | both Rad. & Tr. | clean axes

40 | window length (s)

10 | tapering (%)

10% | spectral smoothing (triangular window)

☐ show particle motion (raw data)

☑ full ouput | compute

step#3a (optional) - directivity analysis

compute | max freq: 32 Hz

step#3b (optional) - directivity over time

directivity in time | time step: 60 s

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save- option#1: save HVSR as it is

Save H/V from 0.25 to 64 Hz

save HV curve (as it is)

save - option#2: picking H/V curve

pick HV curve | save picked HV

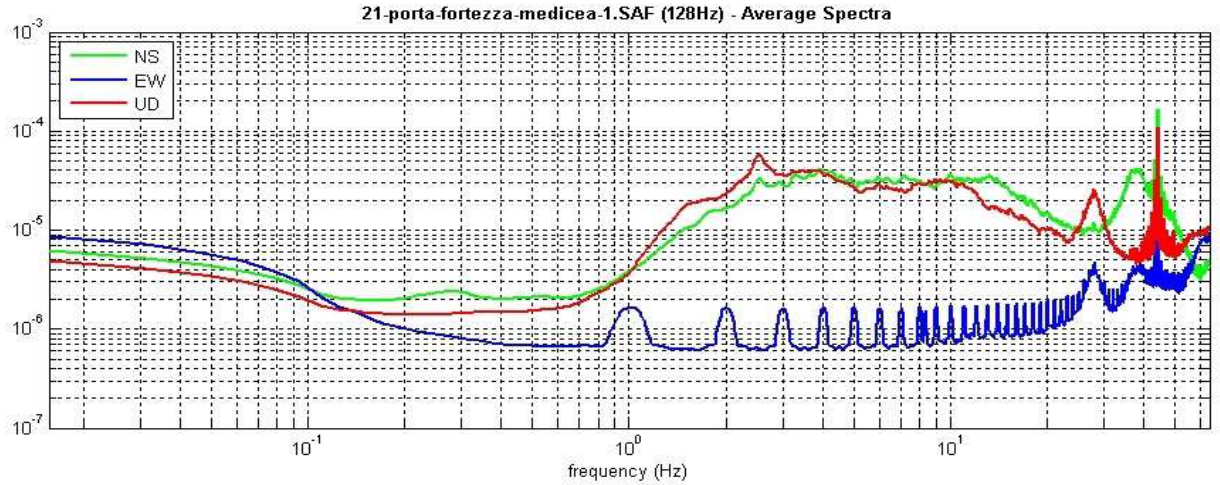
quick analysis (f=Vs/4H)

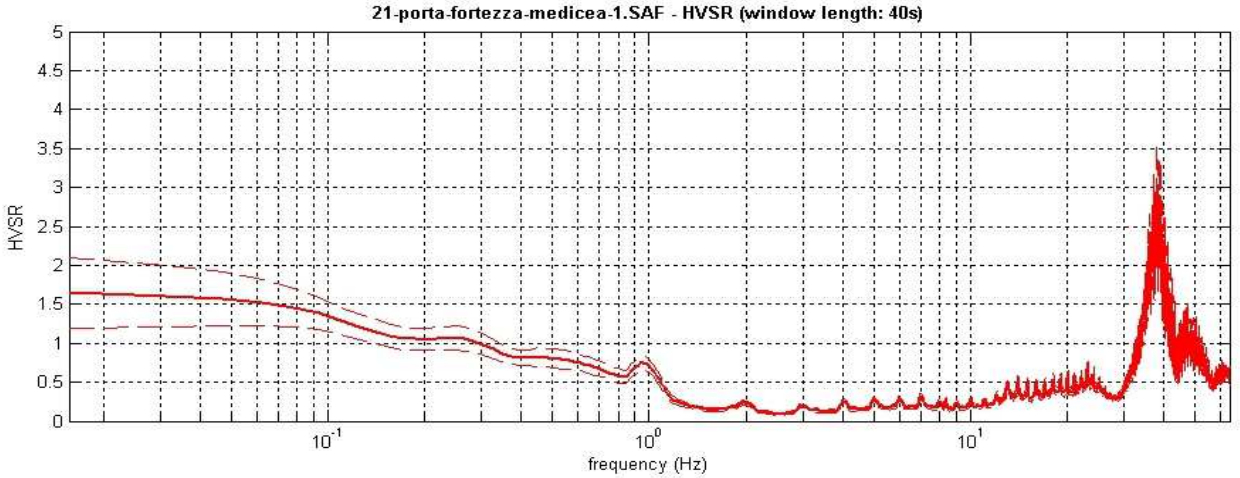
180 | average Vs (m/s) (from surface to bedrock)

20 | depth of the bedrock (m)

1000 | Vs of the bedrock

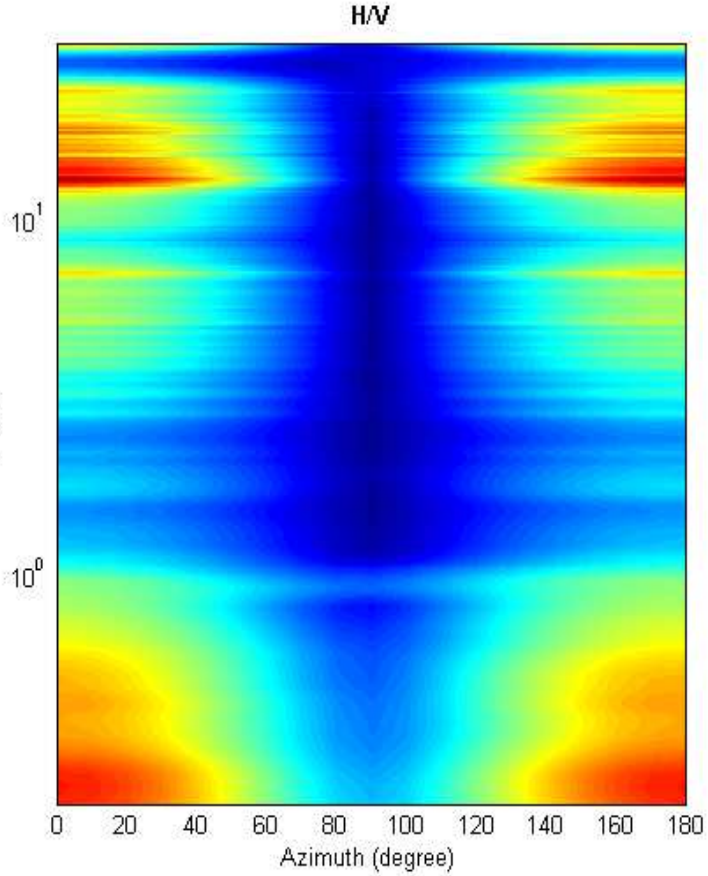
clean | compute

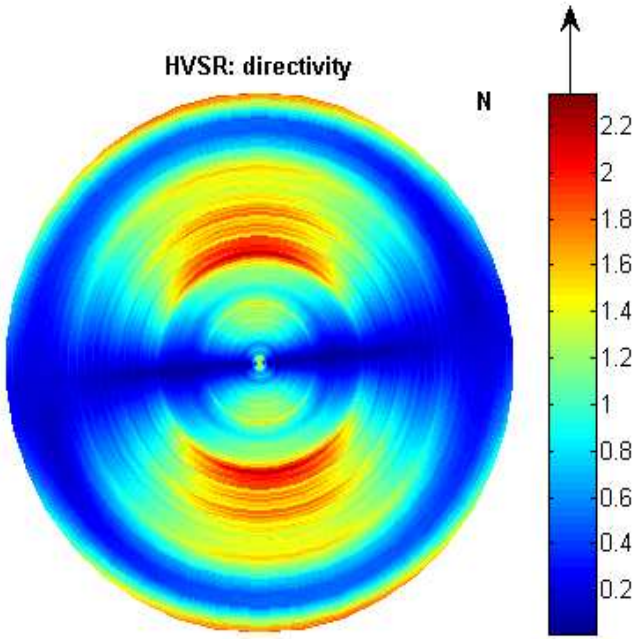




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve

HVSR vs time
frequency (Hz)
10^{1}
10^{0}
5
10
15
20
25
time (min)


H/V
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2

Misura 26

Date: 10 8 2012

Time: 15 1

Dataset: 19-acquedotto-1.SAF

Sampling frequency (Hz): 200

Window length (sec): 5

Length of analysed temporal sequence (min): 30.0

Tapering (%): 10

==========

In the following the results considering the data in the 2.0-25.0Hz frequency range

Peak frequency (Hz): 11.2 (±3.0)

Peak HVSR value: 3.2 (±0.7)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 11.2 > 2 (OK)

#2. [nc > 200]: 40045 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: yes, at frequency 8.4Hz (OK)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 19.2Hz (OK)

#3. [A0 > 2]: 3.2 > 2 (OK)

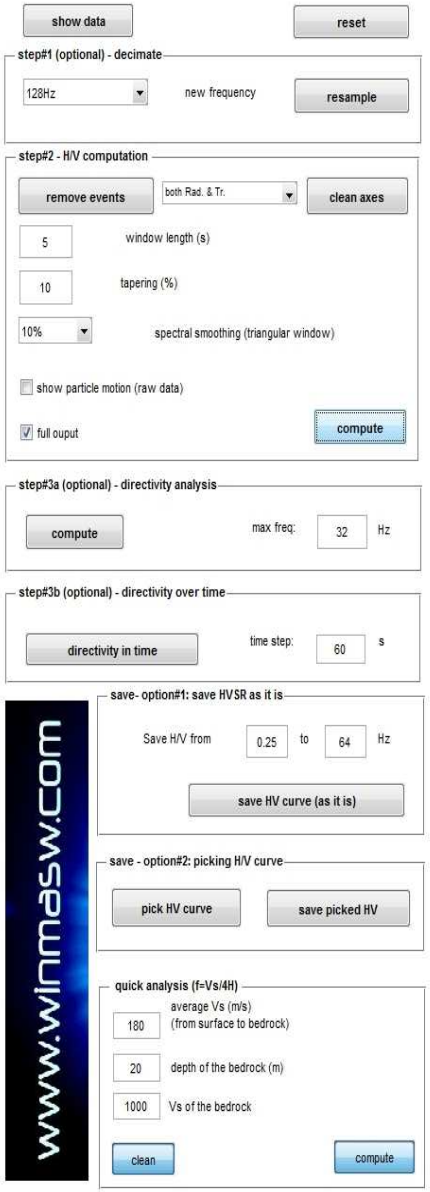
#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

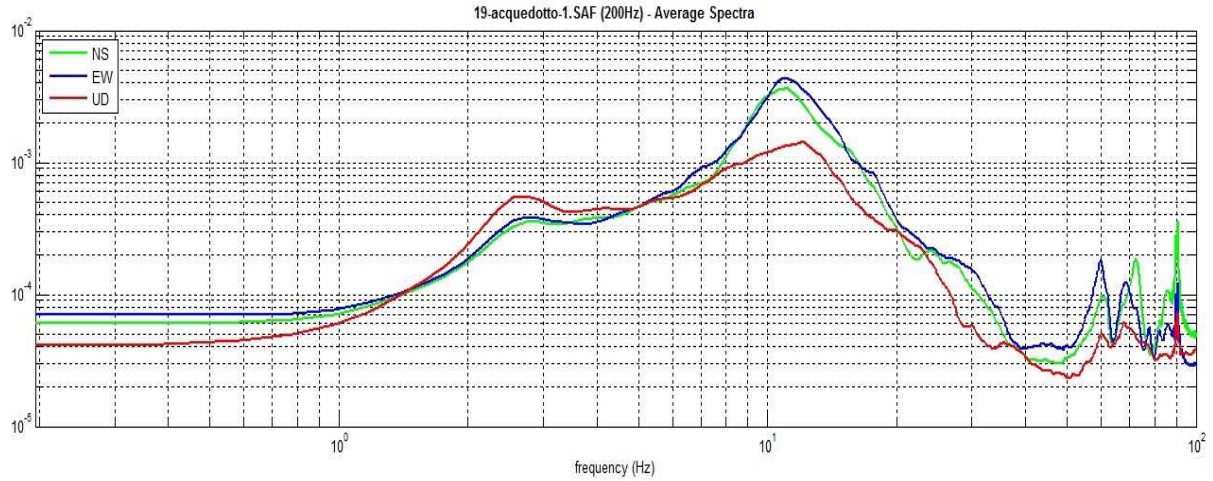
#5. [sigmaf < epsilon(f0)]: 2.970 > 0.558 (NO)

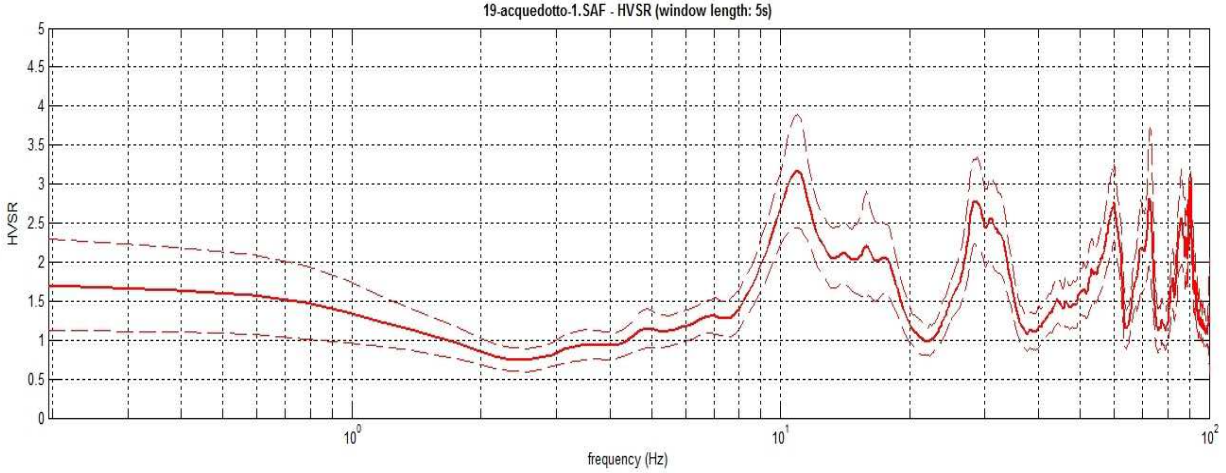
#6. [sigmaA(f0) < theta(f0)]: 0.728 < 1.58 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

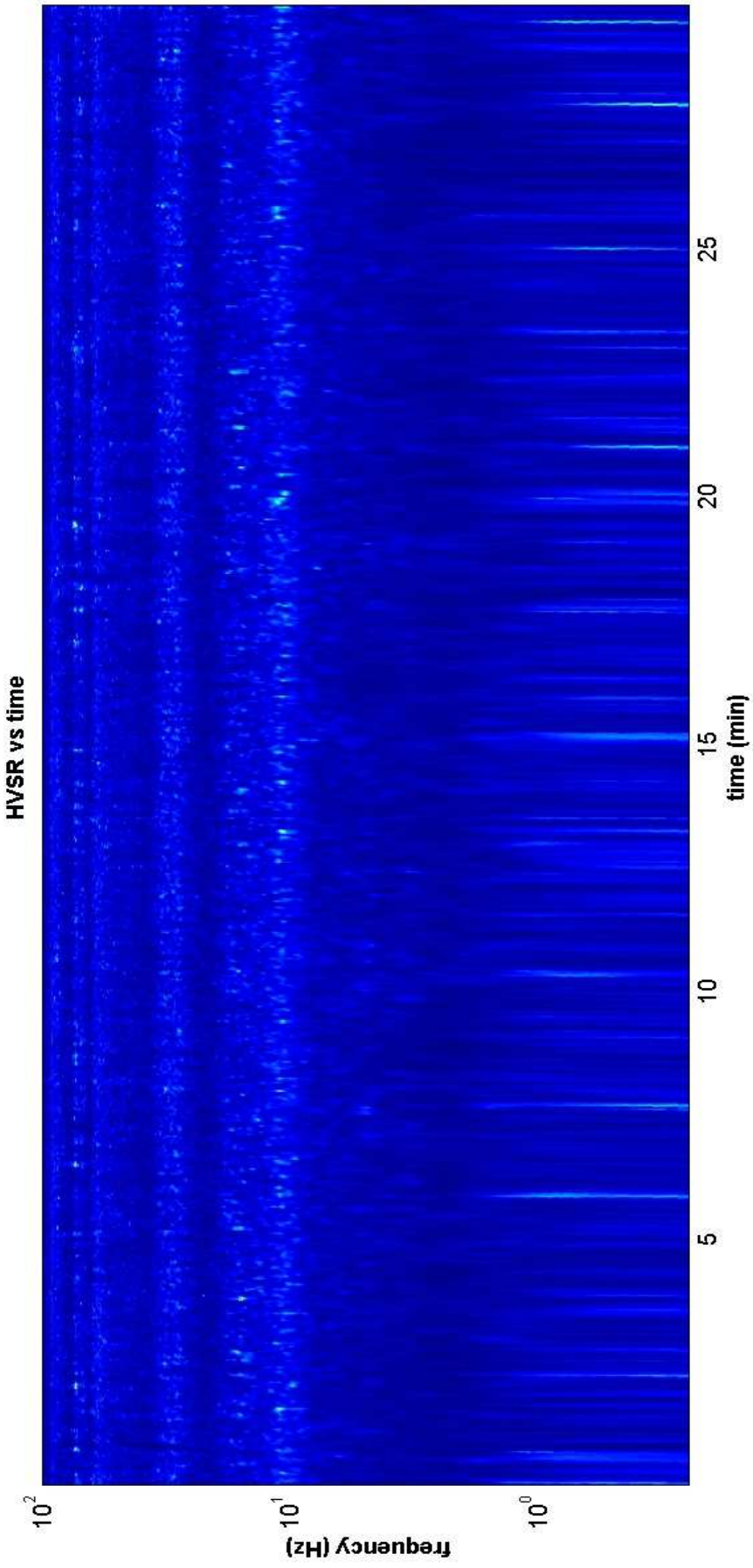
Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

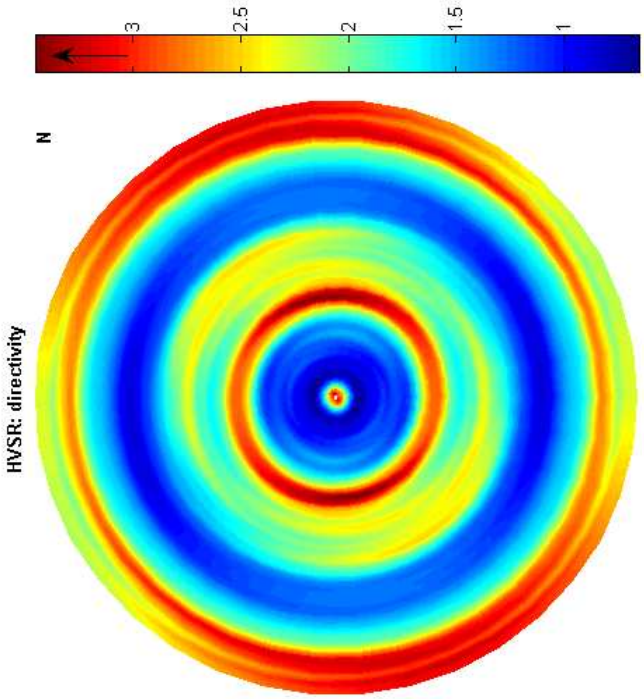


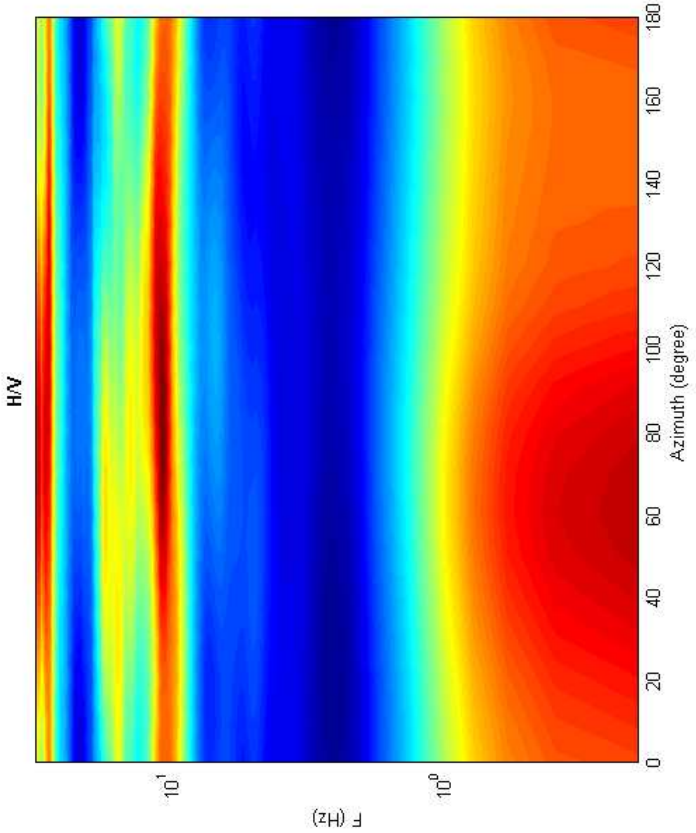




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^{2}
10^{1}
10^{0}
5
10
15
20
25
time (min)


HVSR: directivity
N
3
2.5
2
1.5
1


H/V
F (Hz)
10^{1}
10^{0}
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)

Misura 27

Date: 10 8 2012

Time: 14 54

Dataset: 18-cassia-2.SAF

Sampling frequency (Hz): 128

Window length (sec): 10

Length of analysed temporal sequence (min): 20.2

Tapering (%): 10

==========

In the following the results considering the data in the 0.3-3.0Hz frequency range

Peak frequency (Hz): 1.1 (±0.6)

Peak HVSR value: 1.5 (±0.3)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 1.1 > 1 (OK)

#2. [nc > 200]: 2563 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: (NO)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 2.9Hz (OK)

#3. [A0 > 2]: 1.5 < 2 (NO)

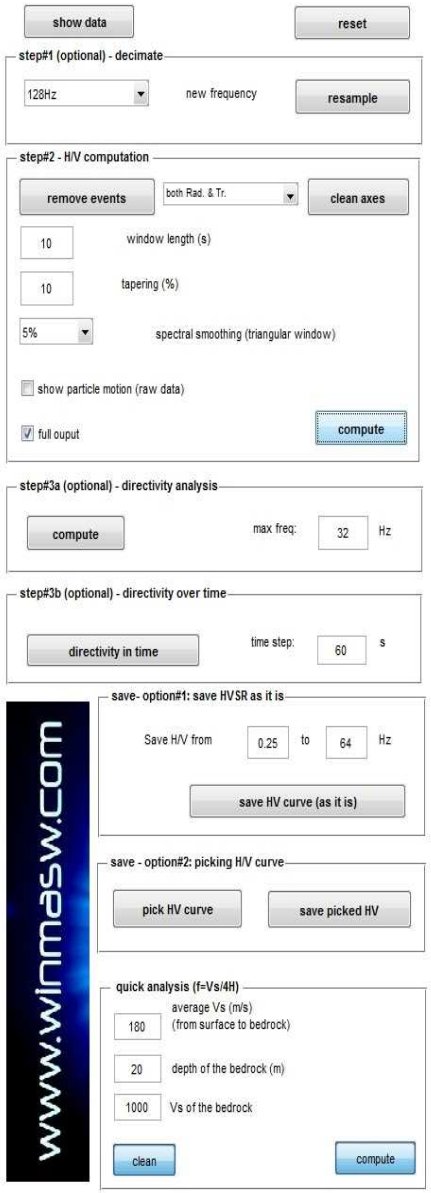
#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (NO)

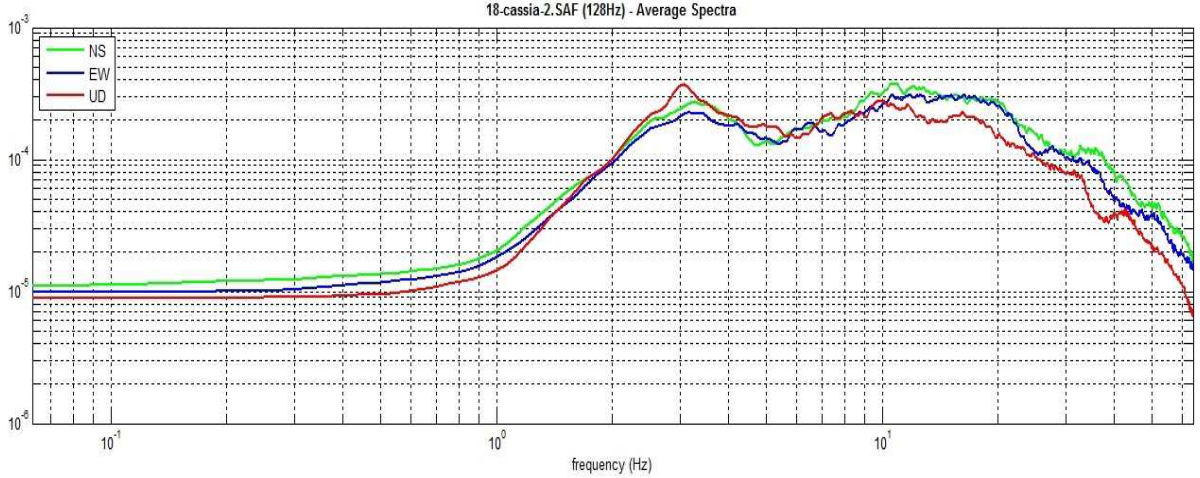
#5. [sigmaf < epsilon(f0)]: 0.632 > 0.106 (NO)

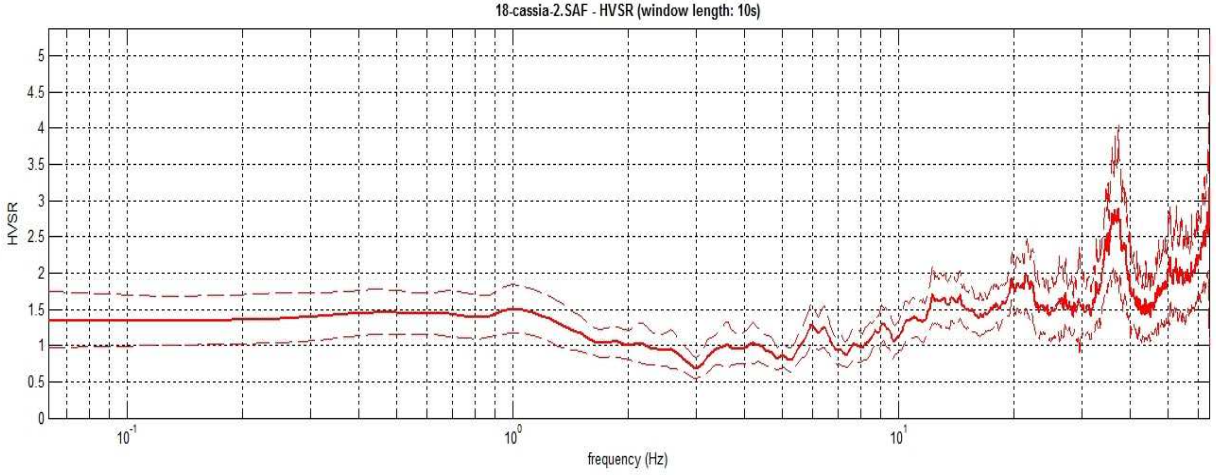
#6. [sigmaA(f0) < theta(f0)]: 0.335 < 1.78 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

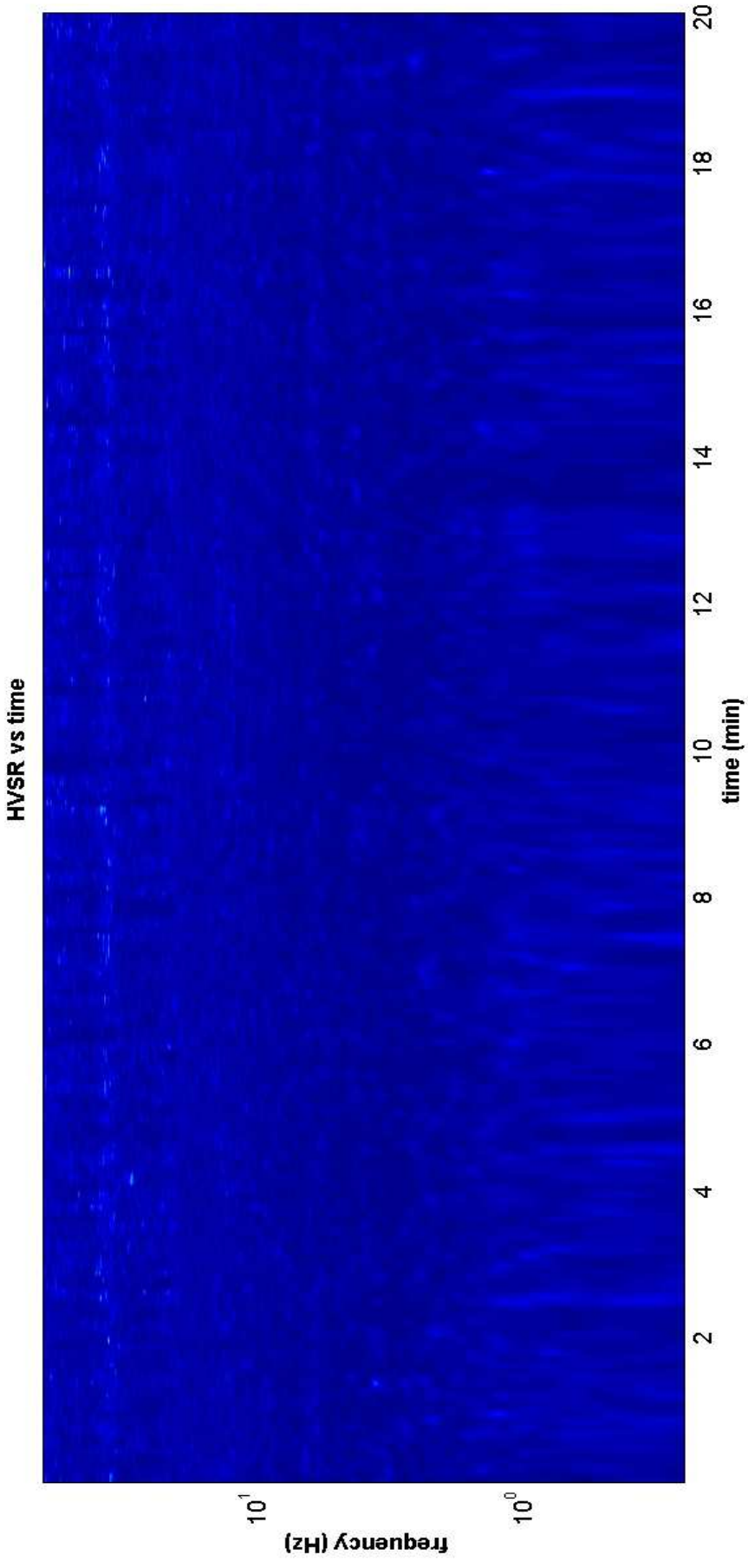
Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

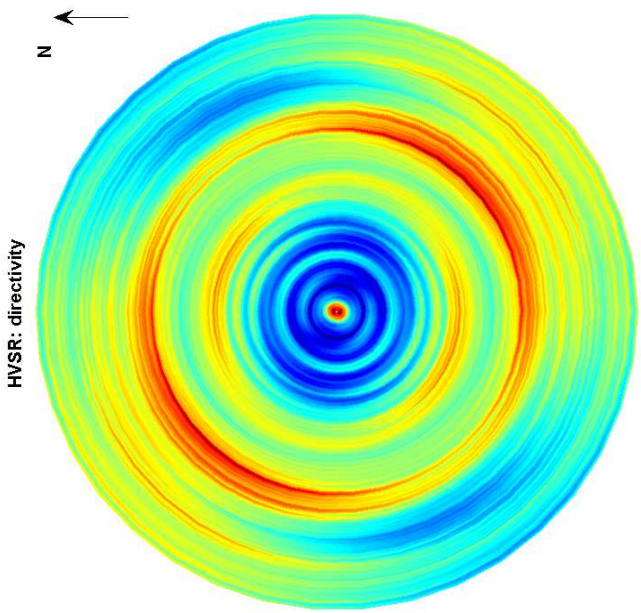


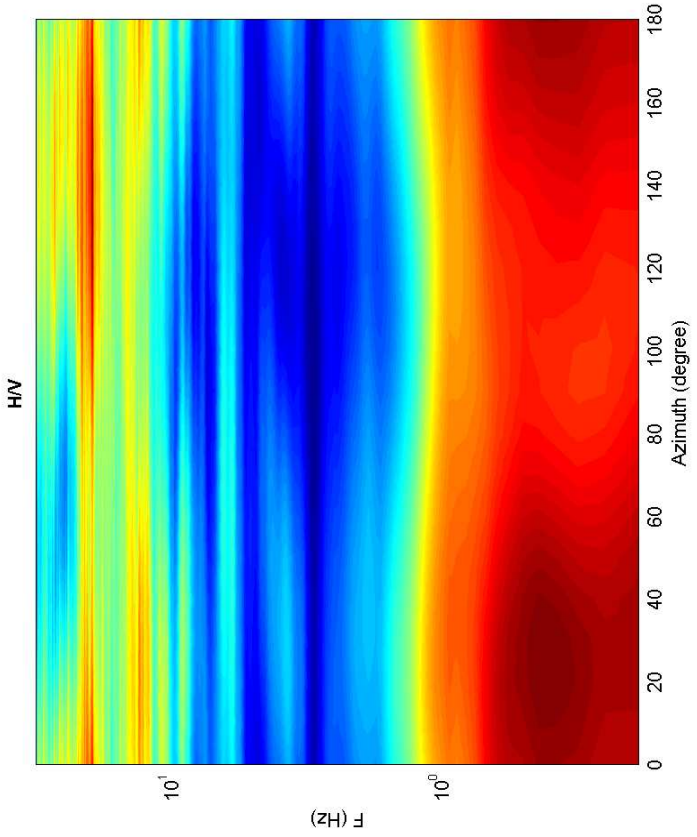




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^1
10^0
2
4
6
8
10
12
14
16
18
20
time (min)


HVSR: directivity
N


H/V
F (Hz)
10^{1}
10^{0}
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)

Misura 28

Date: 17 8 2012

Time: 15 56

Dataset: 39-vvff-2.SAF

Sampling frequency (Hz): 128

Window length (sec): 40

Length of analysed temporal sequence (min): 18.4

Tapering (%): 10

==========

In the following the results considering the data in the 0.2-3.6Hz frequency range

Peak frequency (Hz): 1.0 (±0.8)

Peak HVSR value: 1.6 (±0.2)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 1.0 > 0.25 (OK)

#2. [nc > 200]: 2194 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: (NO)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 3.5Hz (OK)

#3. [A0 > 2]: 1.6 < 2 (NO)

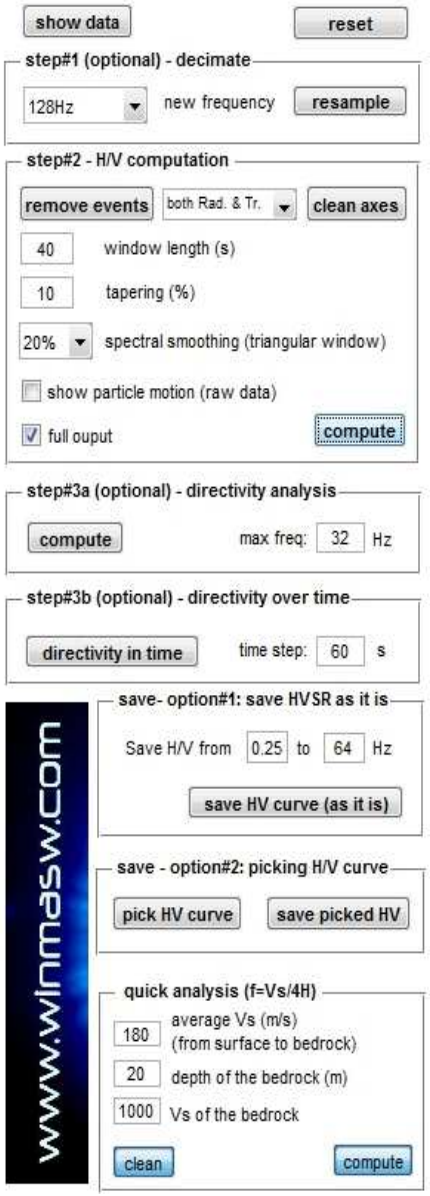
#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

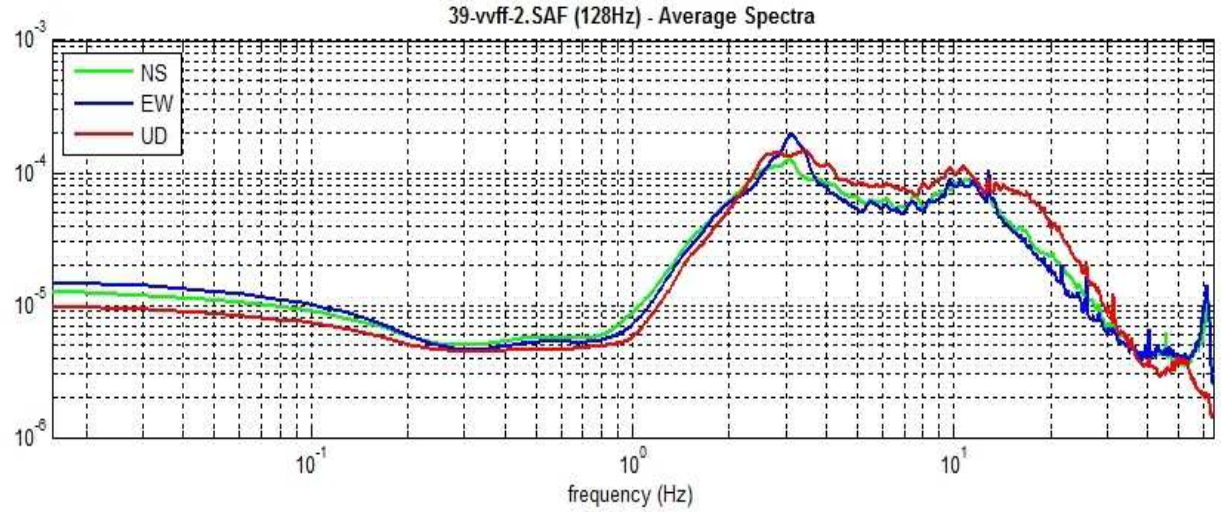
#5. [sigmaf < epsilon(f0)]: 0.839 > 0.102 (NO)

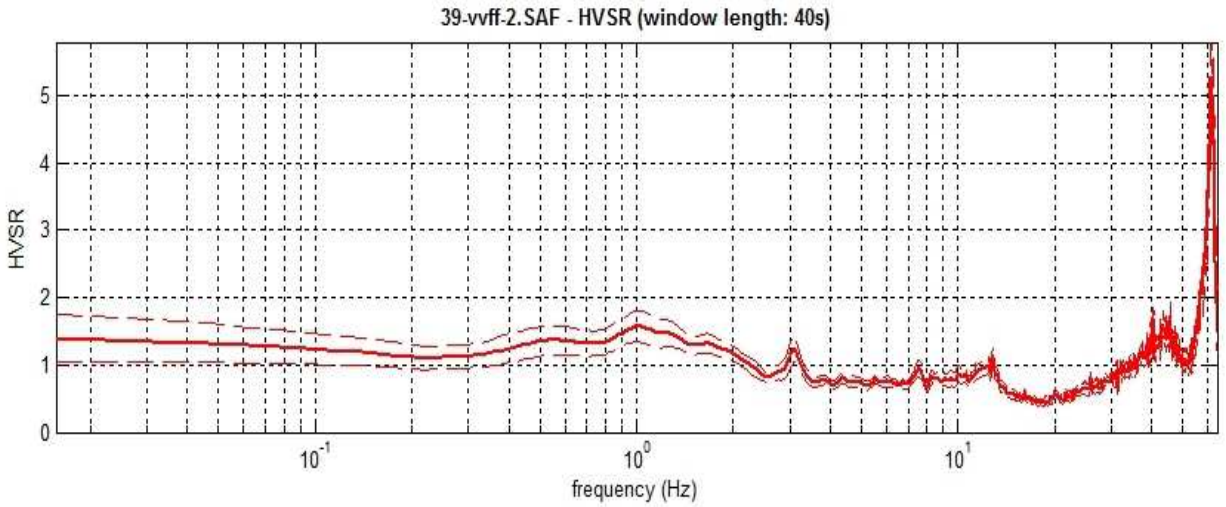
#6. [sigmaA(f0) < theta(f0)]: 0.227 < 1.78 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

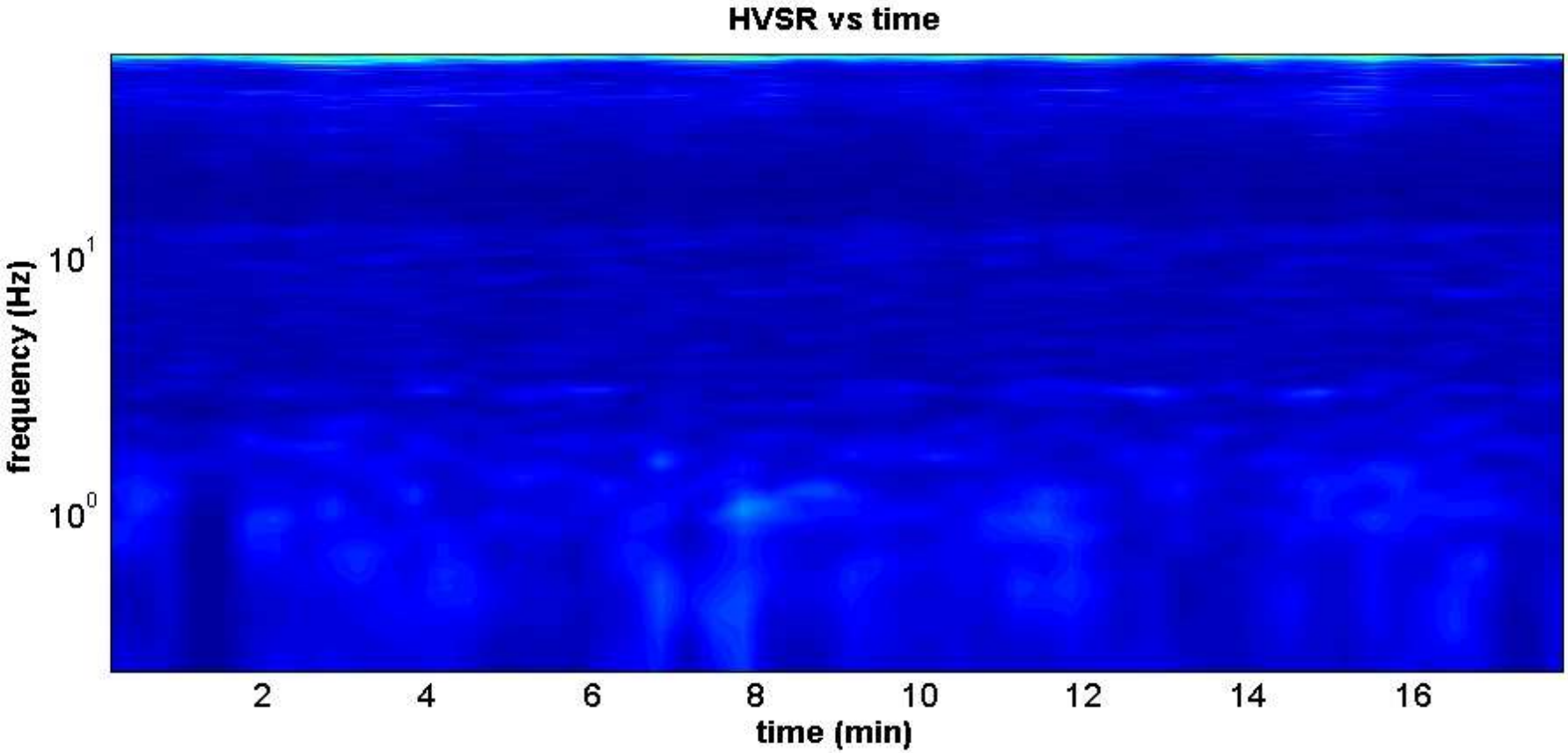
Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

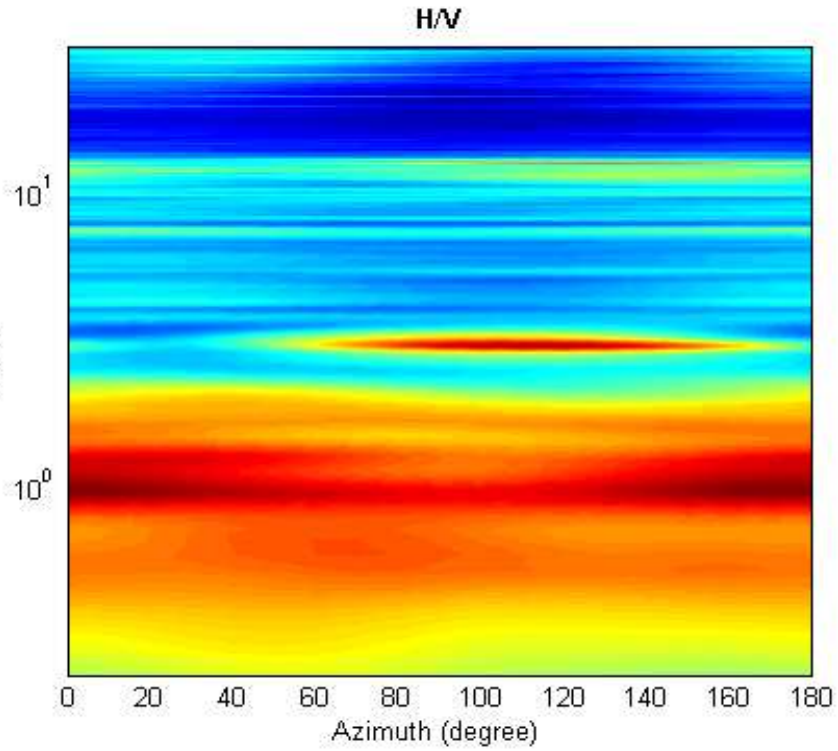


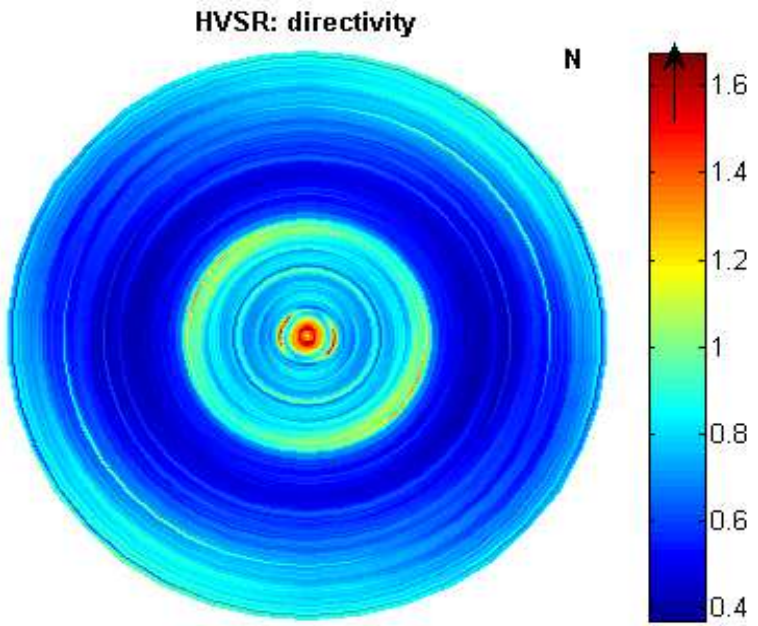




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^1
10^0
2
4
6
8
10
12
14
16
time (min)


H/V
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
1.6
1.4
1.2
1
0.8
0.6
0.4

Misura 29

Date: 16 8 2012

Time: 18 12

Dataset: 32-campo-santo-peschi-2.SAF

Sampling frequency (Hz): 128

Window length (sec): 40

Length of analysed temporal sequence (min): 21.9

Tapering (%): 20

==========

In the following the results considering the data in the 0.2-5.0Hz frequency range

Peak frequency (Hz): 1.1 (±1.2)

Peak HVSR value: 1.1 (±0.2)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 1.1 > 0.25 (OK)

#2. [nc > 200]: 2881 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: (NO)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: (NO)

#3. [A0 > 2]: 1.1 < 2 (NO)

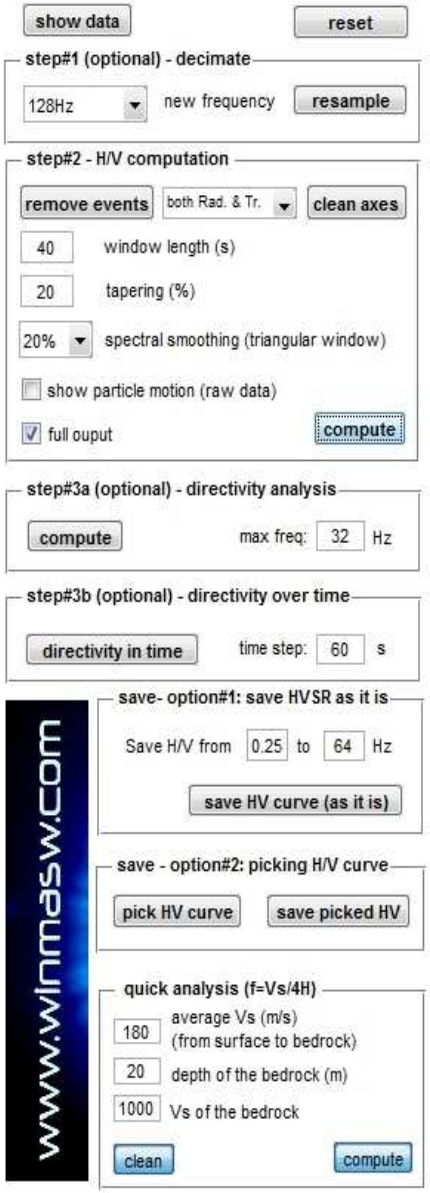
#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

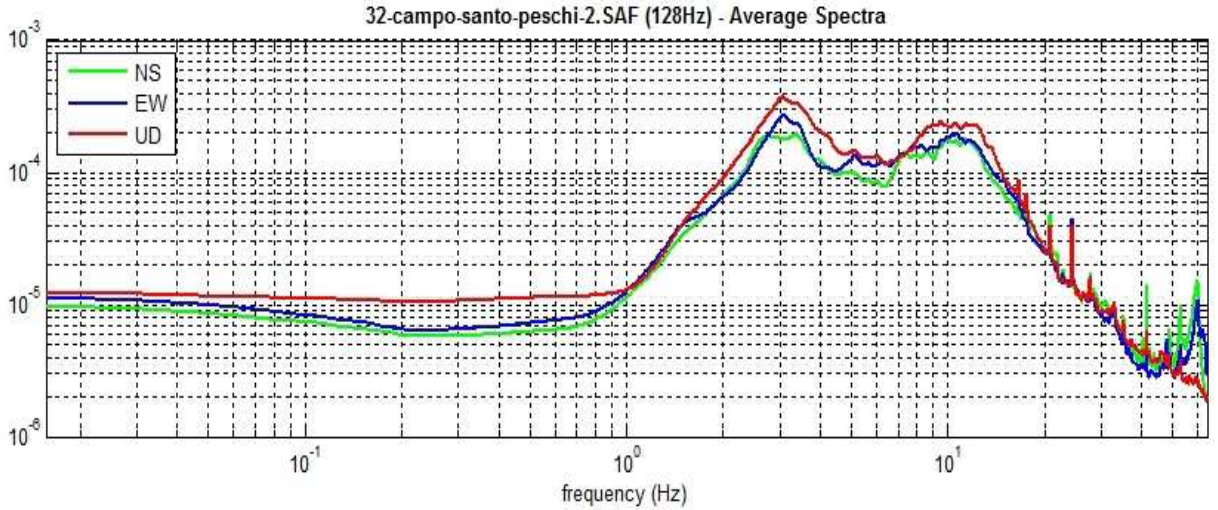
#5. [sigmaf < epsilon(f0)]: 1.209 > 0.113 (NO)

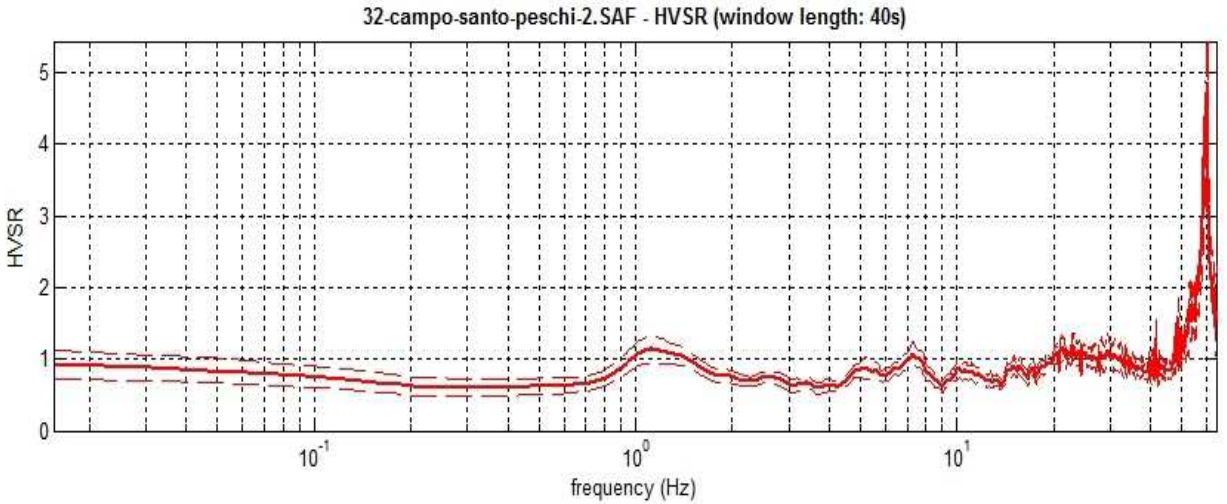
#6. [sigmaA(f0) < theta(f0)]: 0.190 < 1.78 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

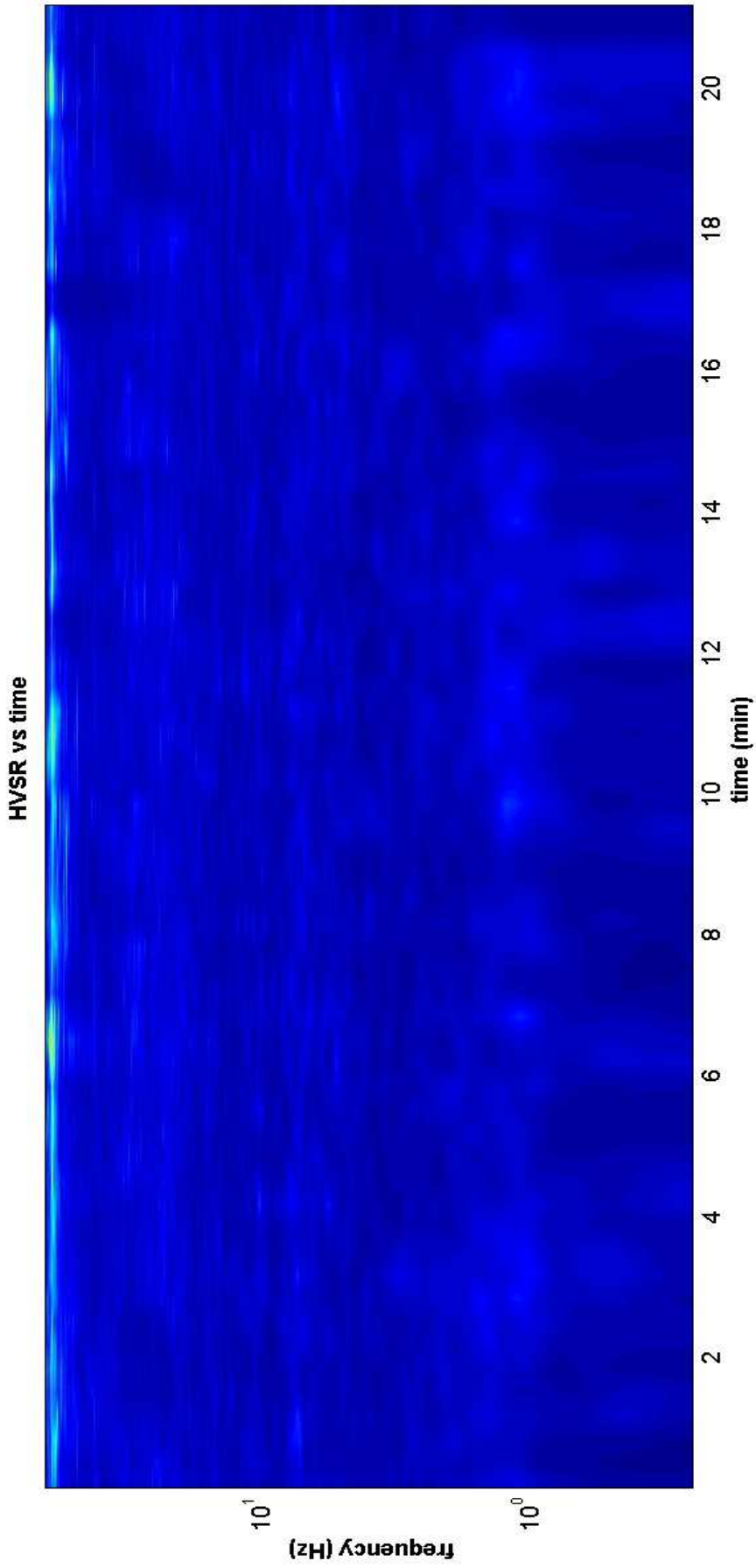
Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

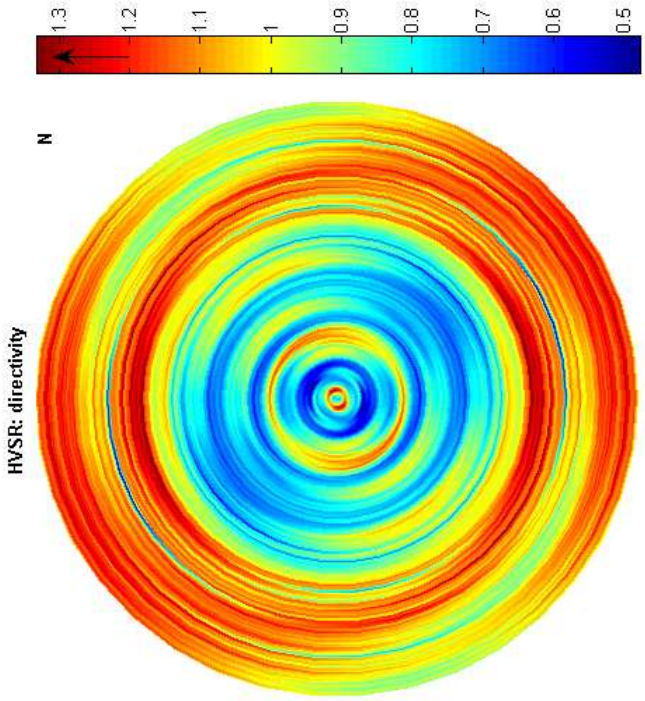


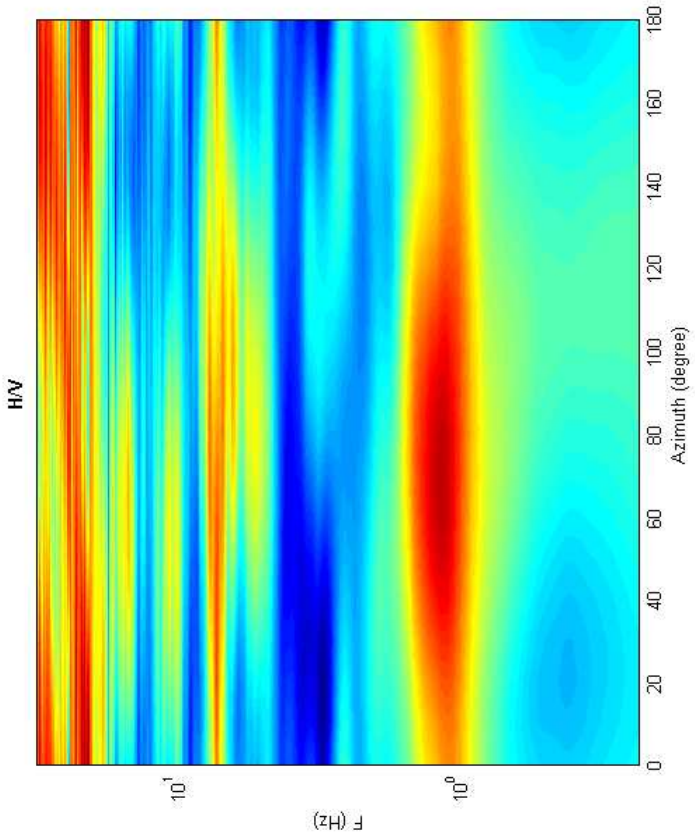




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^1
10^0
2
4
6
8
10
12
14
16
18
20
time (min)


HVSR: directivity
N
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5


H/V
F (Hz)
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)

Misura 30

Date: 17 8 2012

Time: 16 58

Dataset: 40-ilbalzo-2.SAF

Sampling frequency (Hz): 128

Window length (sec): 60

Length of analysed temporal sequence (min): 17.5

Tapering (%): 10

==========

In the following the results considering the data in the 0.2-10.0Hz frequency range

Peak frequency (Hz): 5.9 (±2.8)

Peak HVSR value: 1.2 (±0.1)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 5.9 > 0.16667 (OK)

#2. [nc > 200]: 12020 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: (NO)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: (NO)

#3. [A0 > 2]: 1.2 < 2 (NO)

#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

#5. [sigmaf < epsilon(f0)]: 2.766 > 0.295 (NO)

#6. [sigmaA(f0) < theta(f0)]: 0.093 < 1.58 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

show data | reset

step#1 (optional) - decimate

128Hz | new frequency | resample

step#2 - H/V computation

remove events | both Rad. & Tr. | clean axes

60 window length (s)

10 tapering (%)

30% spectral smoothing (triangular window)

☐ show particle motion (raw data)

☑ full ouput | compute

step#3a (optional) - directivity analysis

compute | max freq: 32 Hz

step#3b (optional) - directivity over time

directivity in time | time step: 60 s

www.winmasw.com

save- option#1: save HVSR as it is

Save H/V from 0.25 to 64 Hz

save HV curve (as it is)

save - option#2: picking H/V curve

pick HV curve | save picked HV

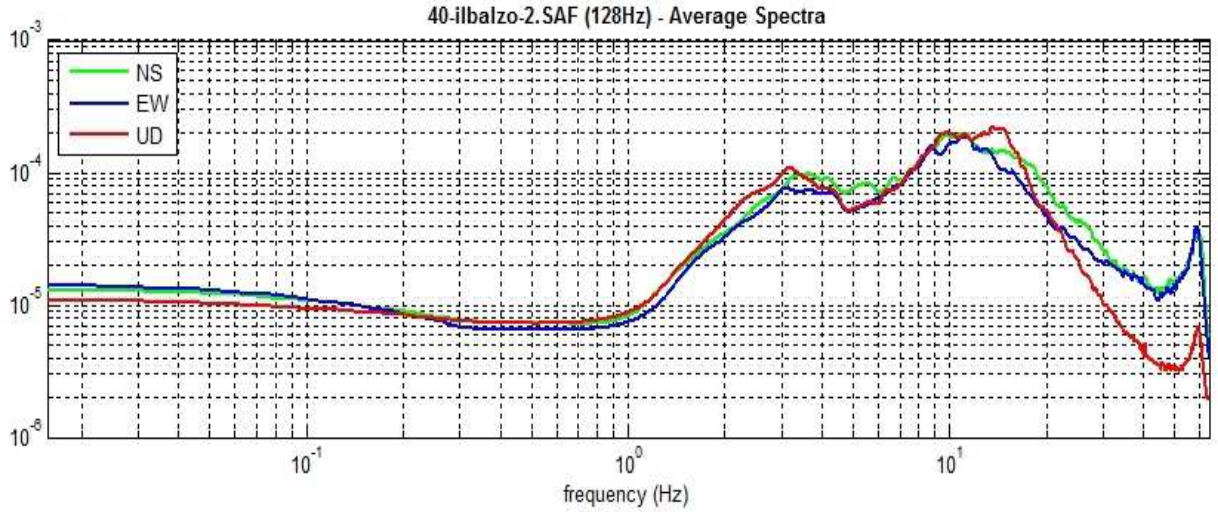
quick analysis (f=Vs/4H)

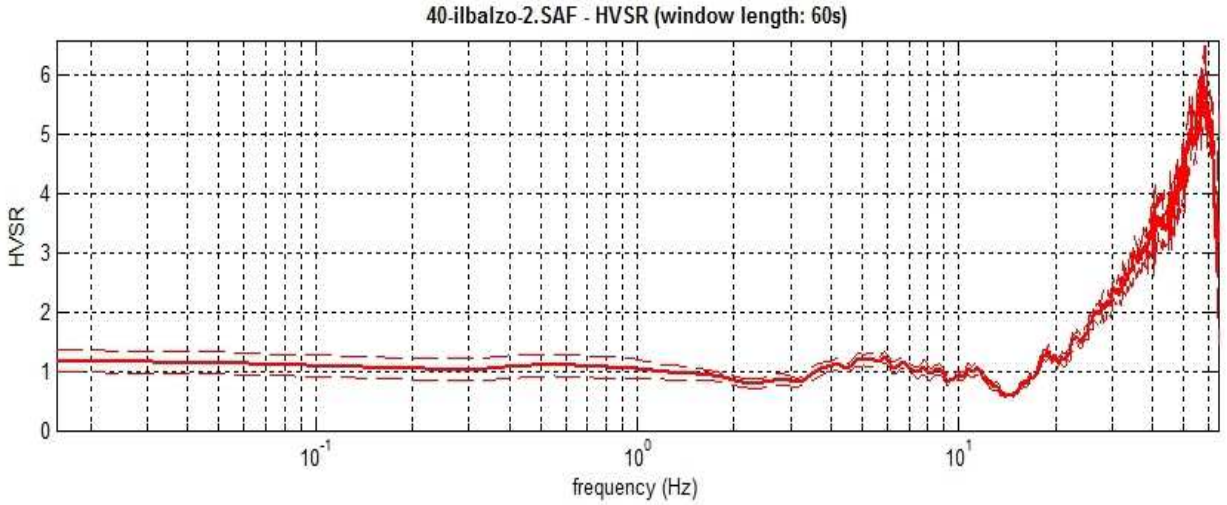
180 average Vs (m/s) (from surface to bedrock)

20 depth of the bedrock (m)

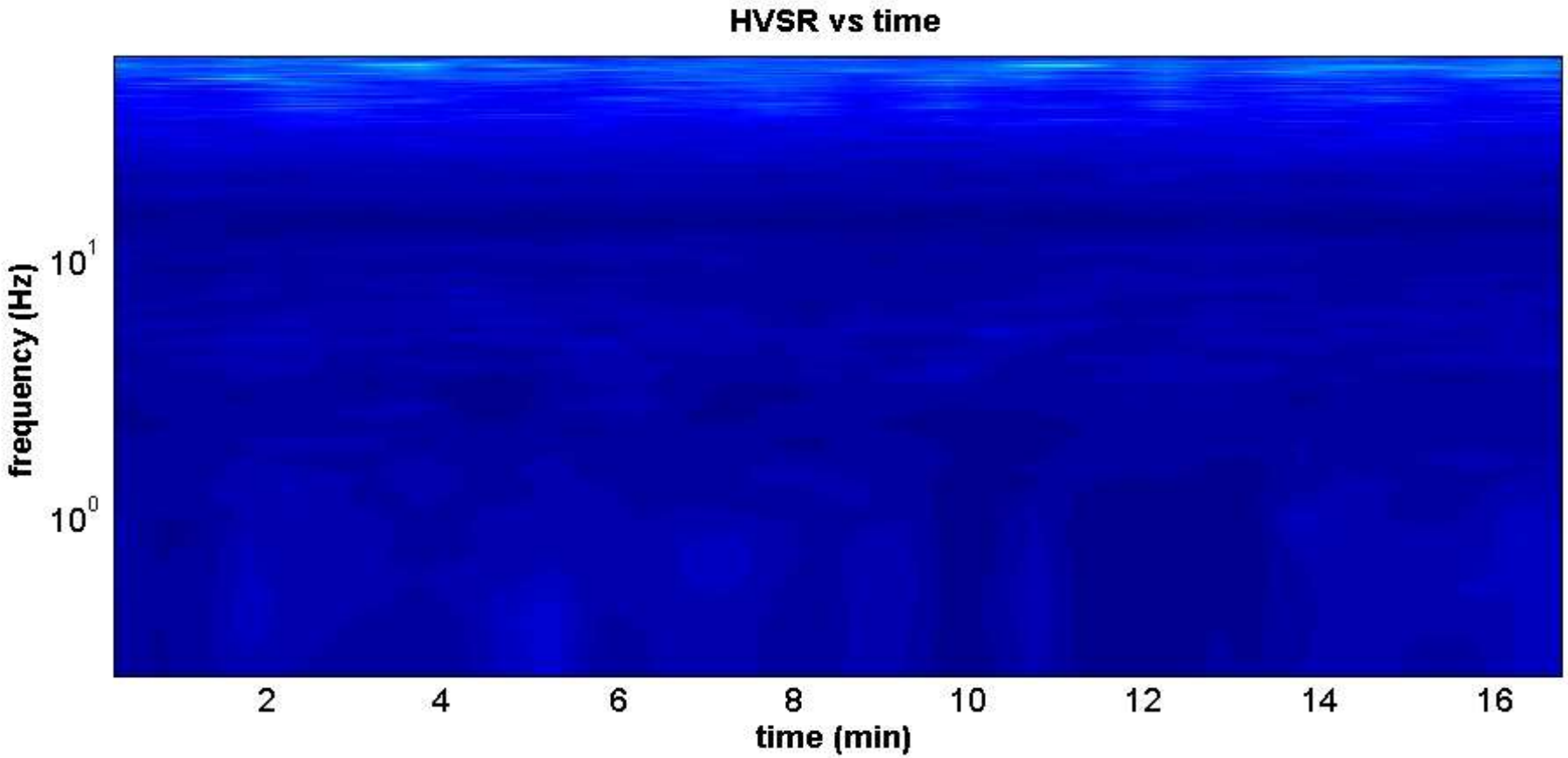
1000 Vs of the bedrock

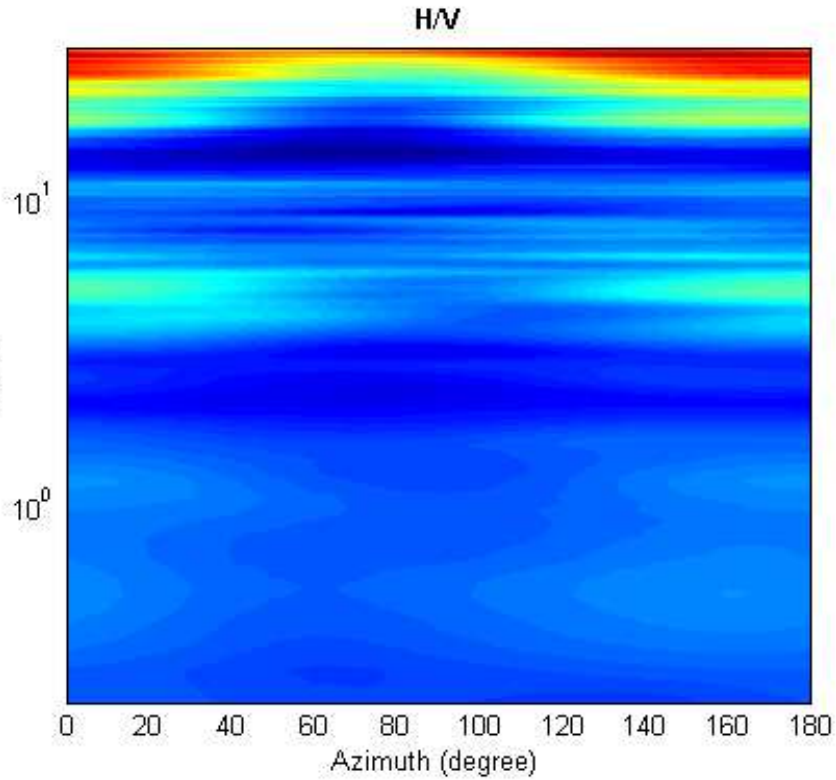
clean | compute

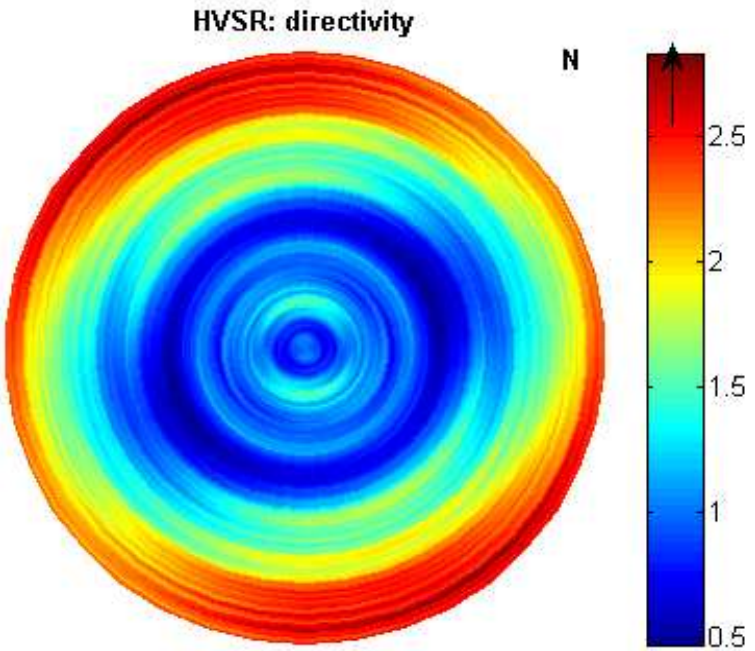




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^1
10^0
2
4
6
8
10
12
14
16
time (min)


H/V
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
2.5
2
1.5
1
0.5

Misura 31

Date: 14 8 2012

Time: 14 28

Dataset: 24-bellavista-bulgaria-1.SAF

Sampling frequency (Hz): 128

Window length (sec): 80

Length of analysed temporal sequence (min): 21.2

Tapering (%): 50

==========

In the following the results considering the data in the 0.2-5.0Hz frequency range

Peak frequency (Hz): 0.9 (±0.4)

Peak HVSR value: 2.2 (±0.5)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 0.9 > 0.125 (OK)

#2. [nc > 200]: 2157 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: yes, at frequency 0.3Hz (OK)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 1.9Hz (OK)

#3. [A0 > 2]: 2.2 > 2 (OK)

#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

#5. [sigmaf < epsilon(f0)]: 0.374 > 0.135 (NO)

#6. [sigmaA(f0) < theta(f0)]: 0.437 < 2 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

show data | reset

step#1 (optional) - decimate

128Hz | new frequency | resample

step#2 - H/V computation

remove events | both Rad. & Tr. | clean axes

80 window length (s)

50 tapering (%)

5% spectral smoothing (triangular window)

☐ show particle motion (raw data)

☑ full ouput | compute

step#3a (optional) - directivity analysis

compute | max freq: 32 Hz

step#3b (optional) - directivity over time

directivity in time | time step: 60 s

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save- option#1: save HVSR as it is

Save H/V from 0.25 to 64 Hz

save HV curve (as it is)

save - option#2: picking H/V curve

pick HV curve | save picked HV

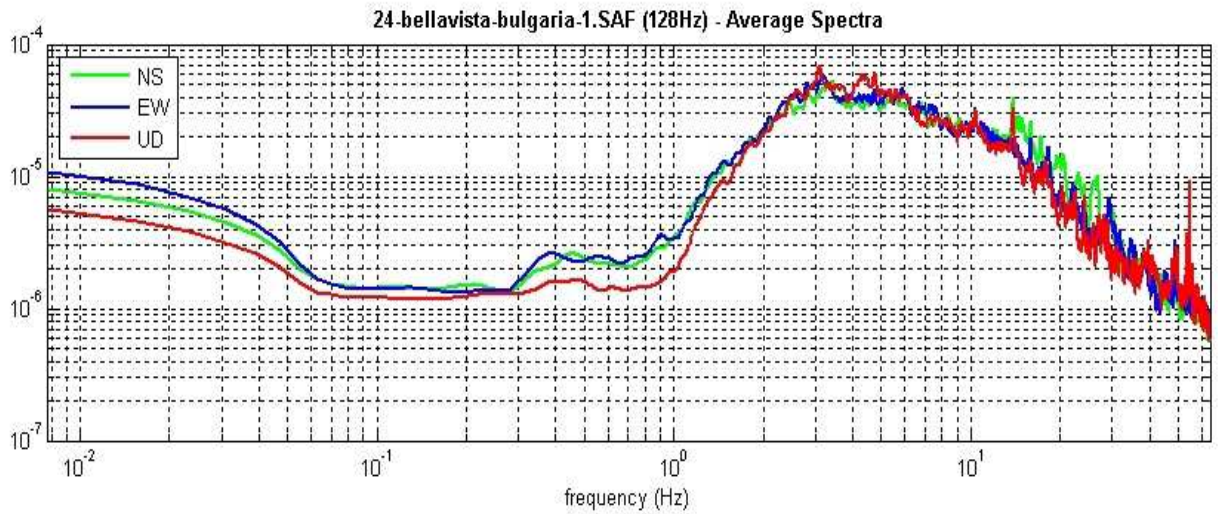
quick analysis (f=Vs/4H)

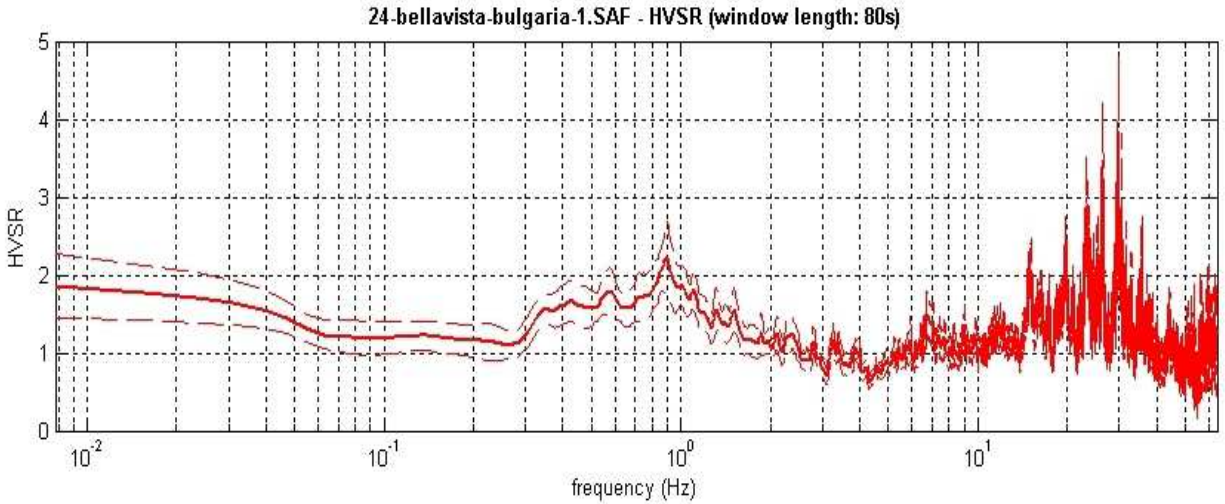
180 average Vs (m/s) (from surface to bedrock)

20 depth of the bedrock (m)

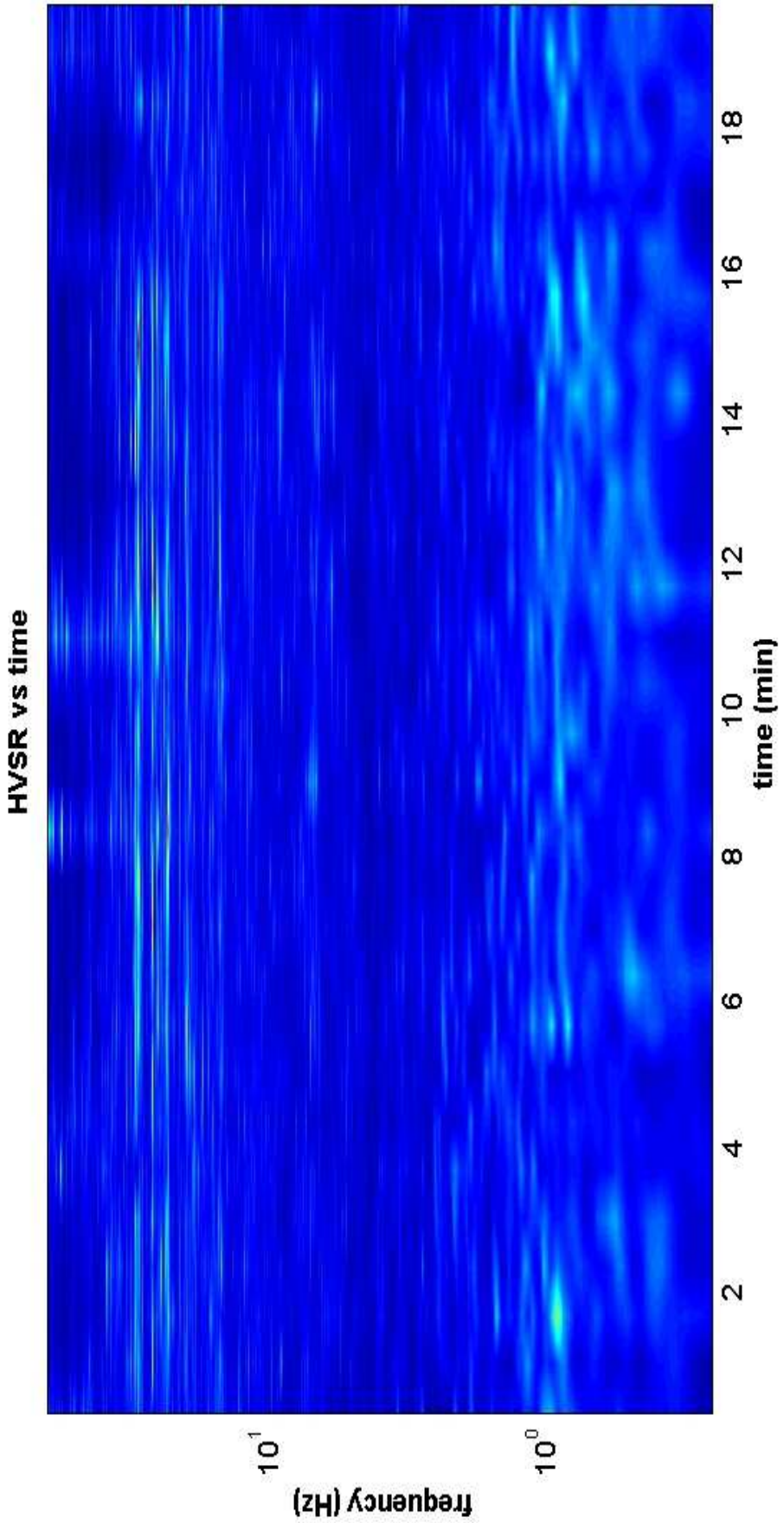
1000 Vs of the bedrock

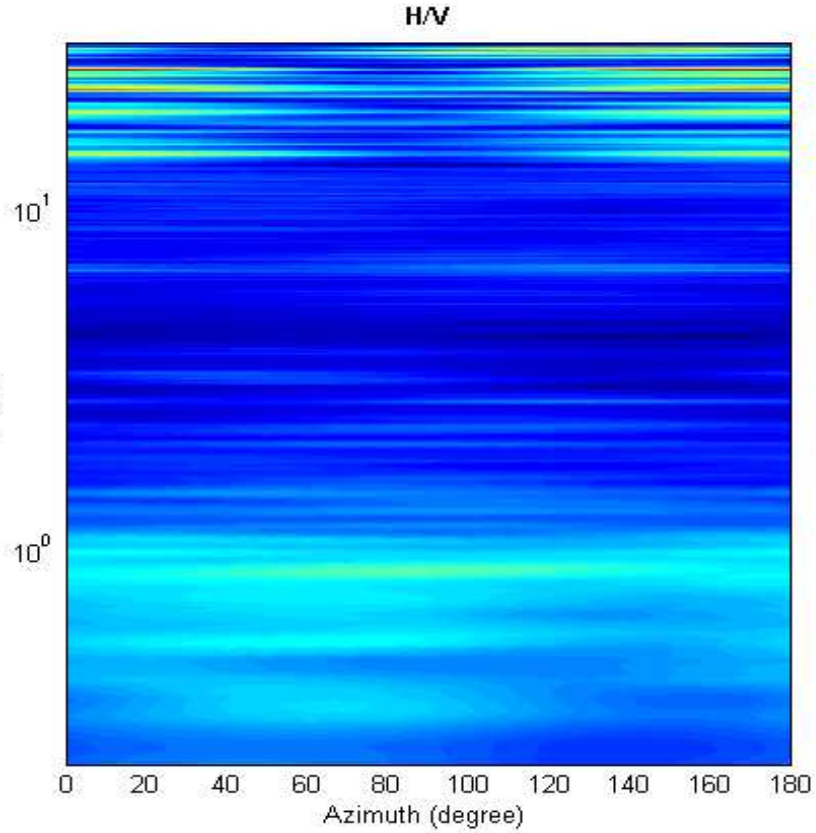
clean | compute

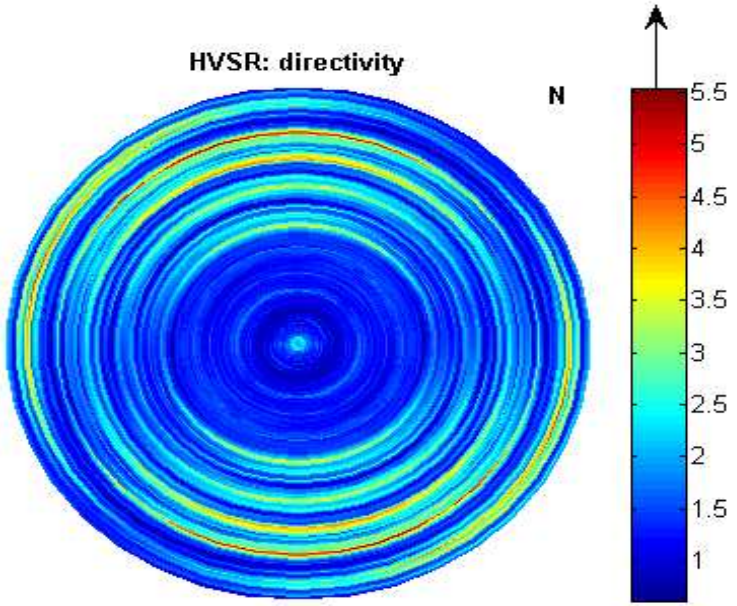




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^{1}
10^{0}
2
4
6
8
10
12
14
16
18
time (min)


H/V
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1

Misura 32

Date: 14 8 2012

Time: 10 16

Dataset: 22-bellavista-peschi-1.SAF

Sampling frequency (Hz): 128

Window length (sec): 70

Length of analysed temporal sequence (min): 25.1

Tapering (%): 10

==========

In the following the results considering the data in the 0.0-10.0Hz frequency range

Peak frequency (Hz): 0.2 (±0.4)

Peak HVSR value: 3.1 (±0.5)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 0.2 > 0.14286 (OK)

#2. [nc > 200]: 516 > 200 (OK)

#3. [f0<0.5Hz; sigmaA(f) < 3 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: yes, at frequency 0.1Hz (OK)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 0.3Hz (OK)

#3. [A0 > 2]: 3.1 > 2 (OK)

#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

#5. [sigmaf < epsilon(f0)]: 0.370 > 0.045 (NO)

#6. [sigmaA(f0) < theta(f0)]: 0.625 < 3 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

show data | reset

step#1 (optional) - decimate

128Hz | new frequency | resample

step#2 - H/V computation

remove events | both Rad. & Tr. | clean axes

70 window length (s)

10 tapering (%)

2% spectral smoothing (triangular window)

☐ show particle motion (raw data)

☑ full ouput | compute

step#3a (optional) - directivity analysis

compute | max freq: 32 Hz

step#3b (optional) - directivity over time

directivity in time | time step: 60 s

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save- option#1: save HVSR as it is

Save H/V from 0.25 to 64 Hz

save HV curve (as it is)

save - option#2: picking H/V curve

pick HV curve | save picked HV

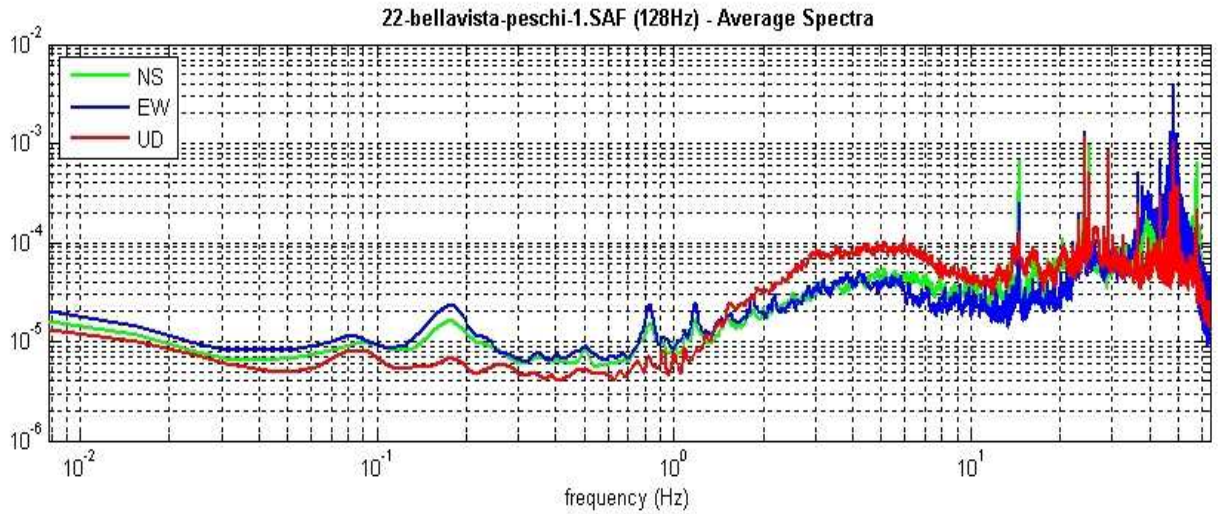
quick analysis (f=Vs/4H)

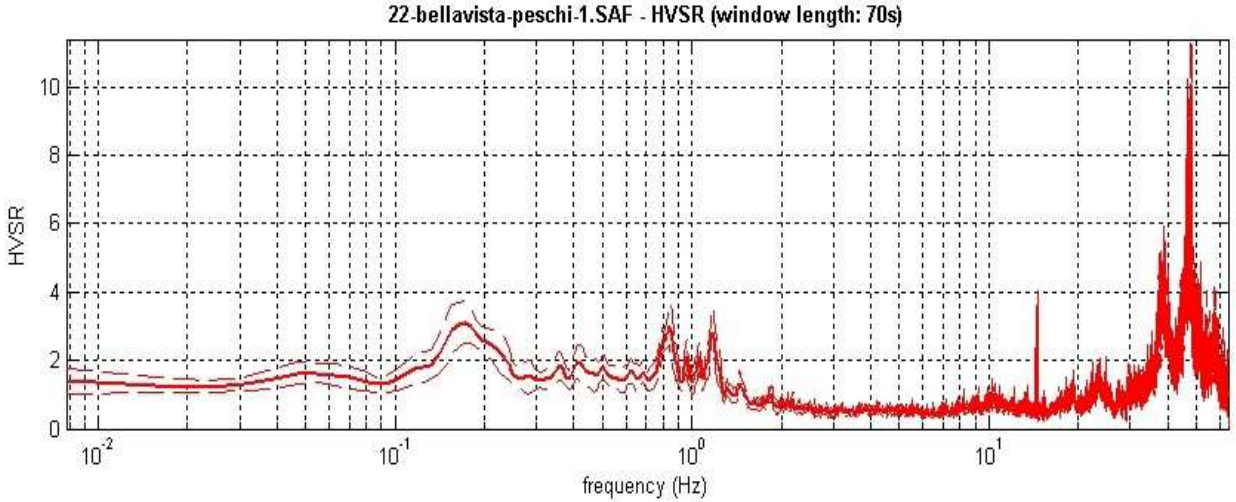
180 average Vs (m/s) (from surface to bedrock)

20 depth of the bedrock (m)

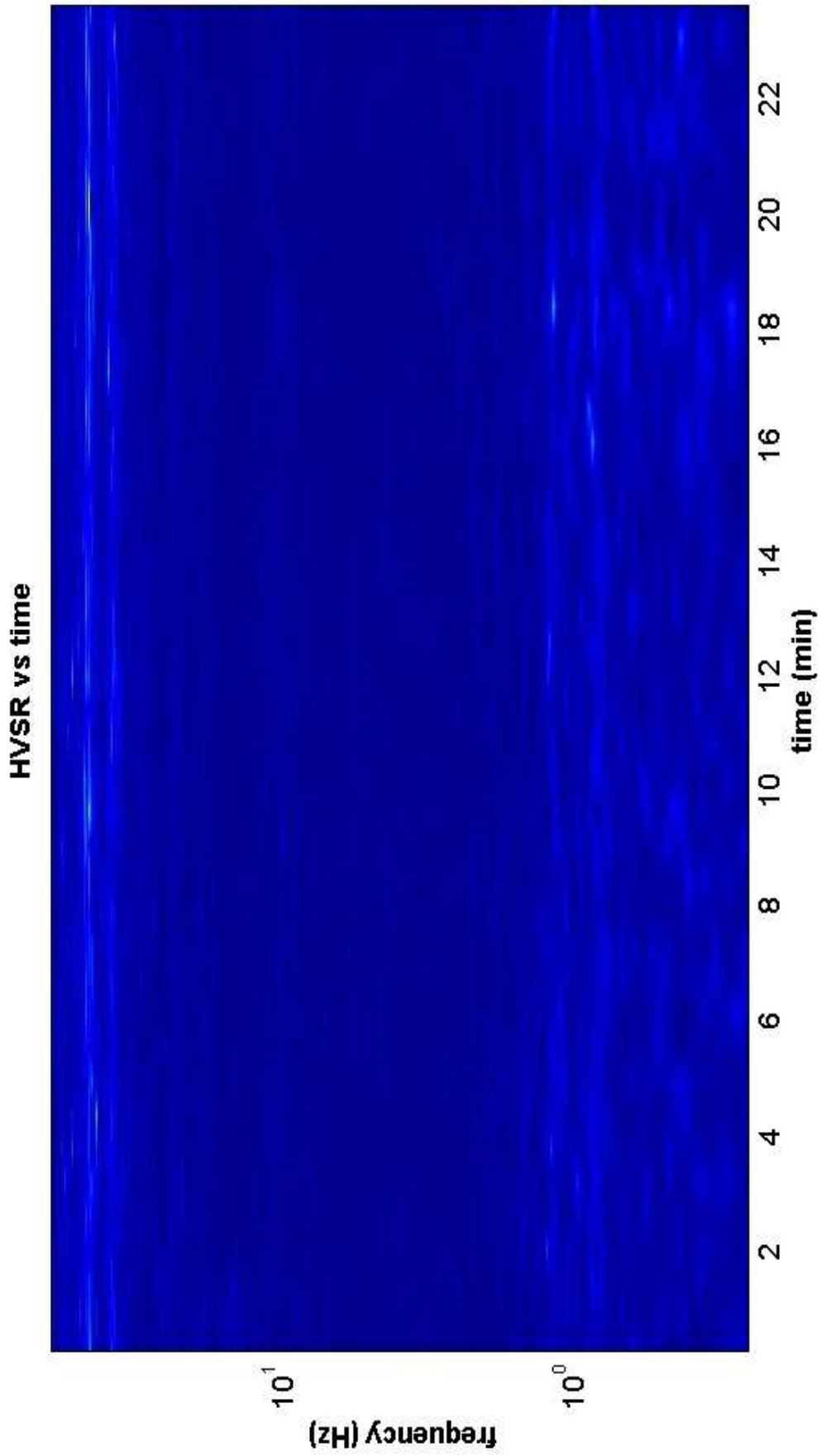
1000 Vs of the bedrock

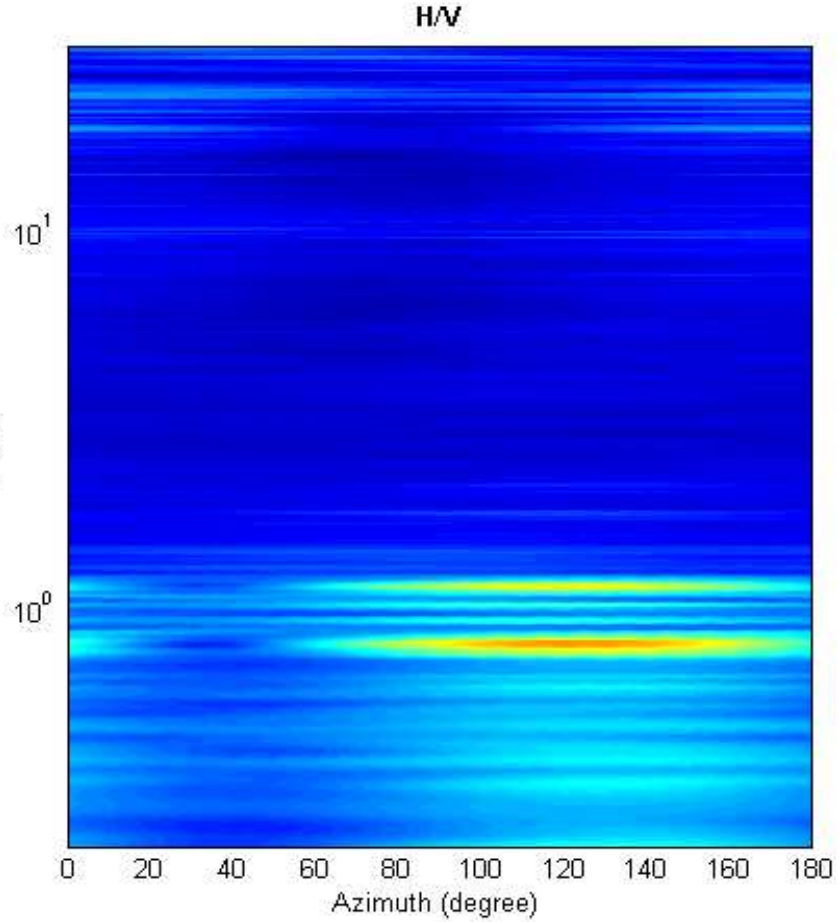
clean | compute

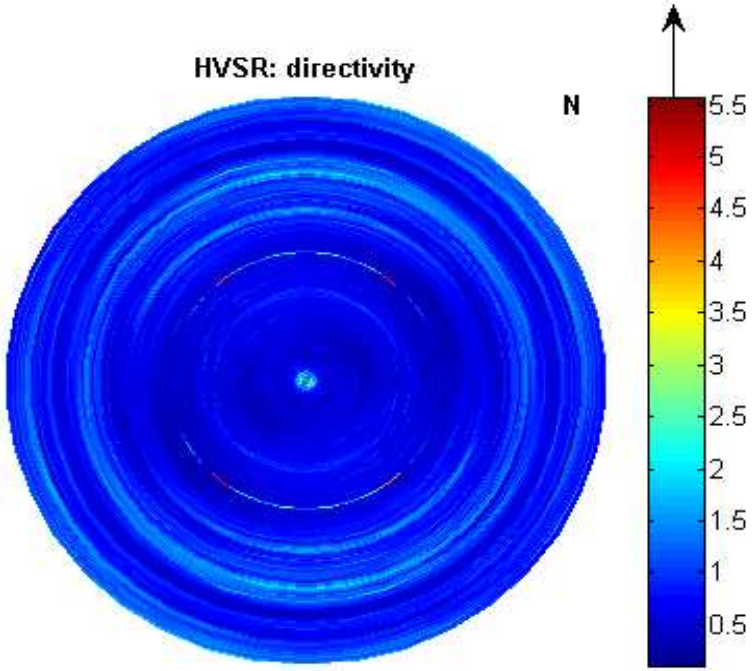




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^1
10^0
2
4
6
8
10
12
14
16
18
20
22
time (min)


H/V
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5

Misura 33

Date: 14 8 2012

Time: 14 17

Dataset: 23-bellavista-giardini-2.SAF

Sampling frequency (Hz): 128

Window length (sec): 100

Length of analysed temporal sequence (min): 24.7

Tapering (%): 50

==========

In the following the results considering the data in the 0.2-5.0Hz frequency range

Peak frequency (Hz): 1.0 (±0.5)

Peak HVSR value: 2.3 (±0.2)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 1.0 > 0.1 (OK)

#2. [nc > 200]: 2844 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: yes, at frequency 0.3Hz (OK)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 1.7Hz (OK)

#3. [A0 > 2]: 2.3 > 2 (OK)

#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

#5. [sigmaf < epsilon(f0)]: 0.529 > 0.102 (NO)

#6. [sigmaA(f0) < theta(f0)]: 0.237 < 1.78 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

show data | reset

step#1 (optional) - decimate

128Hz | new frequency | resample

step#2 - H/V computation

remove events | both Rad. & Tr. | clean axes

100 window length (s)

50 tapering (%)

10% spectral smoothing (triangular window)

☐ show particle motion (raw data)

☑ full ouput | compute

step#3a (optional) - directivity analysis

compute | max freq: 32 Hz

step#3b (optional) - directivity over time

directivity in time | time step: 60 s

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save- option#1: save HVSR as it is

Save H/V from 0.25 to 64 Hz

save HV curve (as it is)

save - option#2: picking H/V curve

pick HV curve | save picked HV

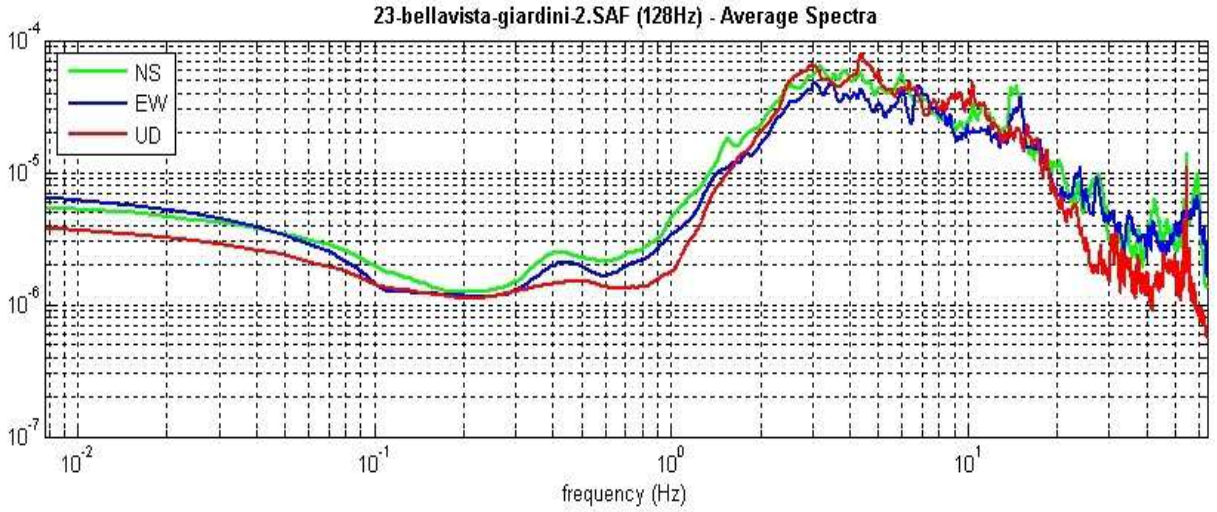
quick analysis (f=Vs/4H)

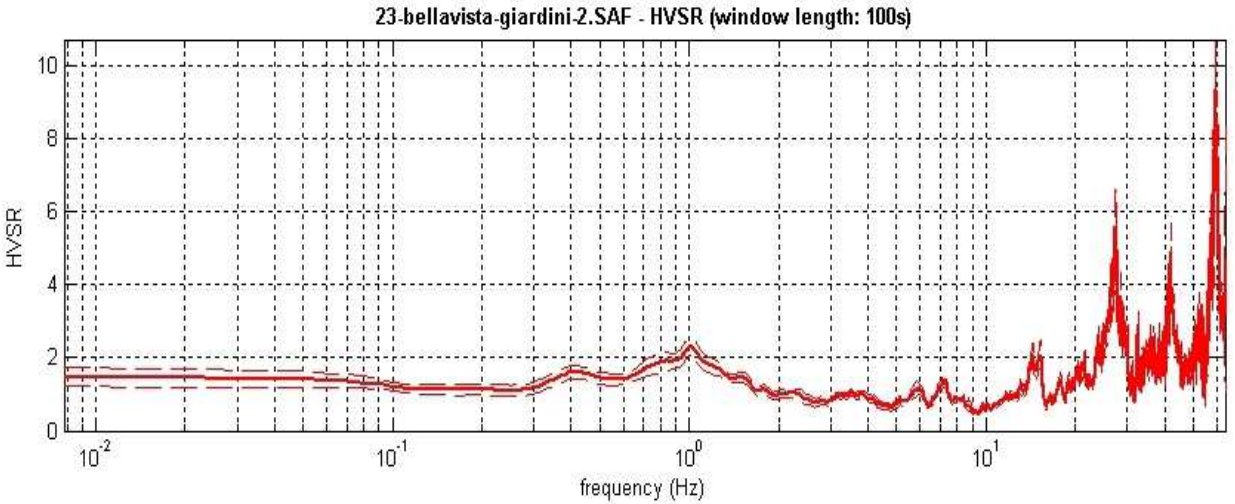
180 average Vs (m/s) (from surface to bedrock)

20 depth of the bedrock (m)

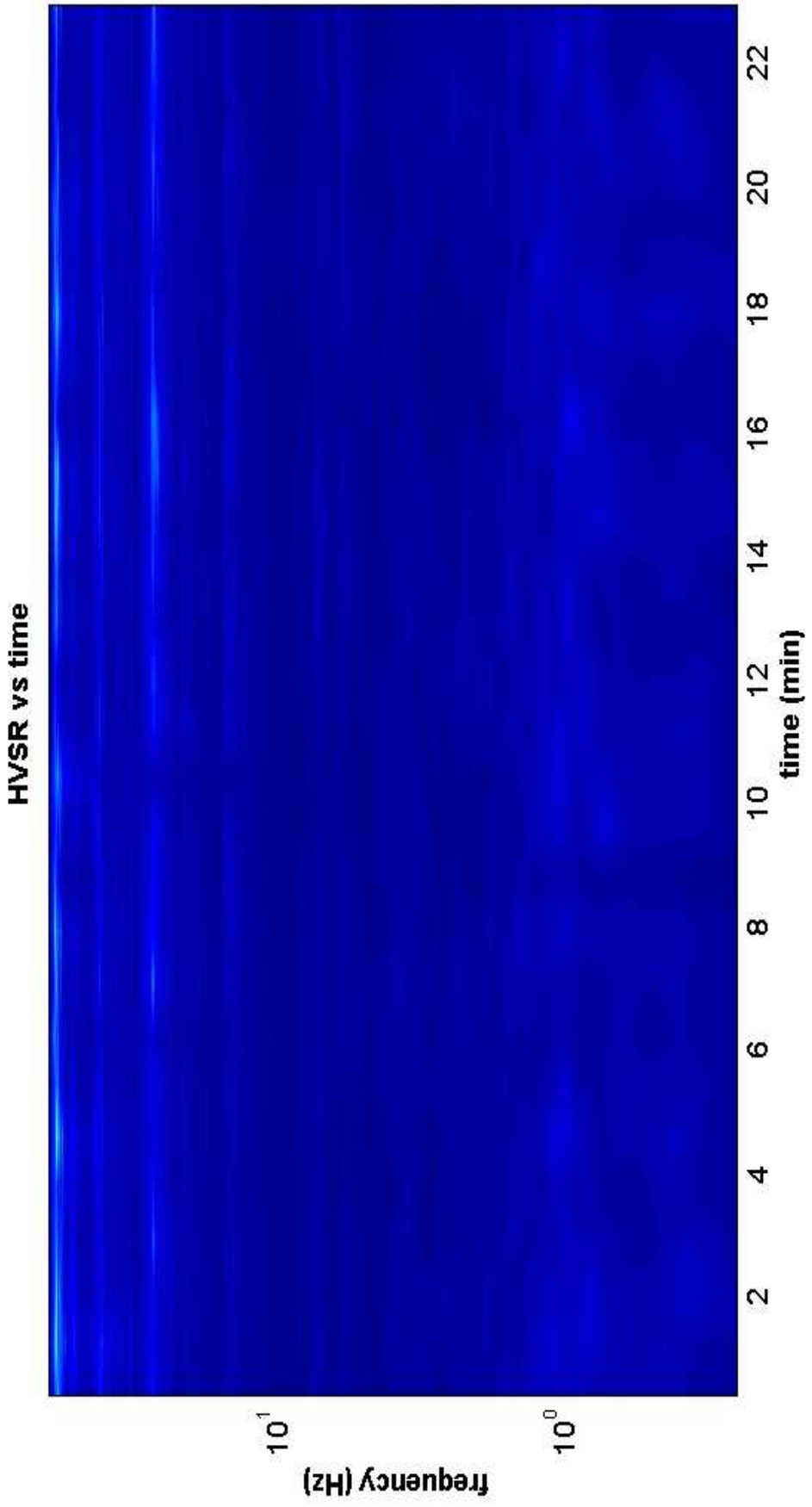
1000 Vs of the bedrock

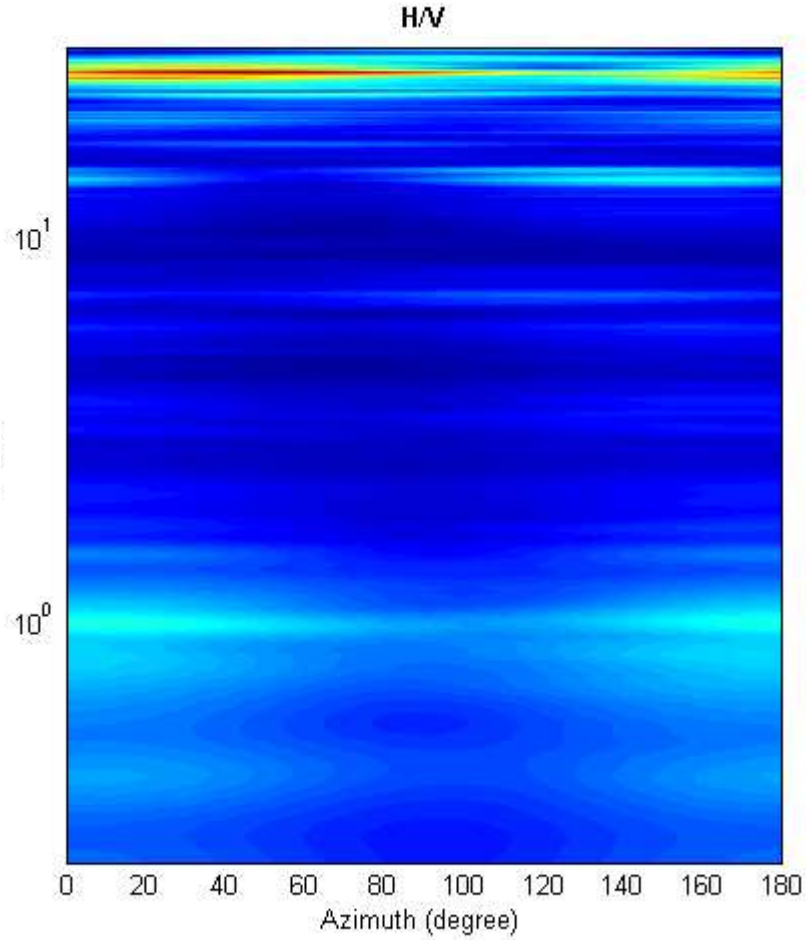
clean | compute

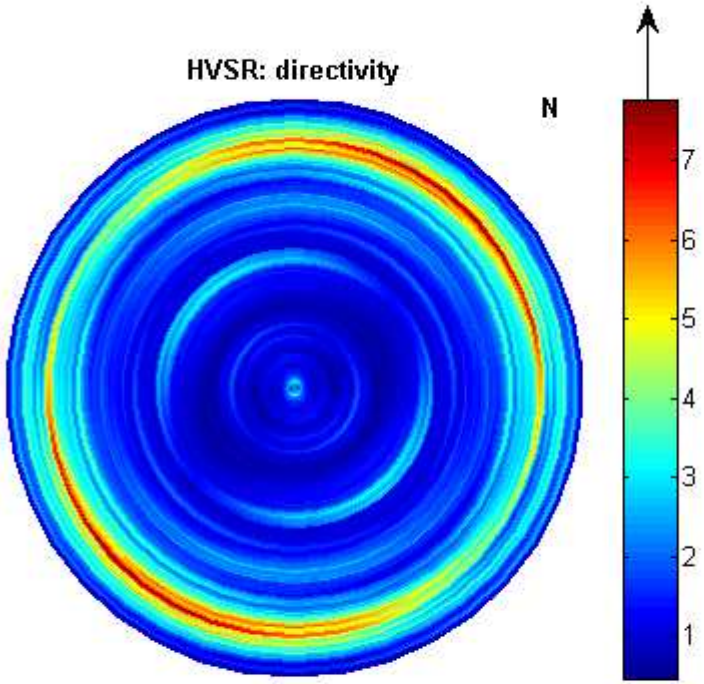




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^{1}
10^{0}
2
4
6
8
10
12
14
16
18
20
22
time (min)


H/V
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
7
6
5
4
3
2
1

Misura 34

Date: 14 8 2012

Time: 15 32

Dataset: 25-bellavista-ungheria-1.SAF

Sampling frequency (Hz): 128

Window length (sec): 100

Length of analysed temporal sequence (min): 16.6

Tapering (%): 50

==========

In the following the results considering the data in the 0.2-3.0Hz frequency range

Peak frequency (Hz): 1.1 (±0.3)

Peak HVSR value: 2.2 (±0.2)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 1.1 > 0.1 (OK)

#2. [nc > 200]: 2053 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: (NO)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 2.1Hz (OK)

#3. [A0 > 2]: 2.2 > 2 (OK)

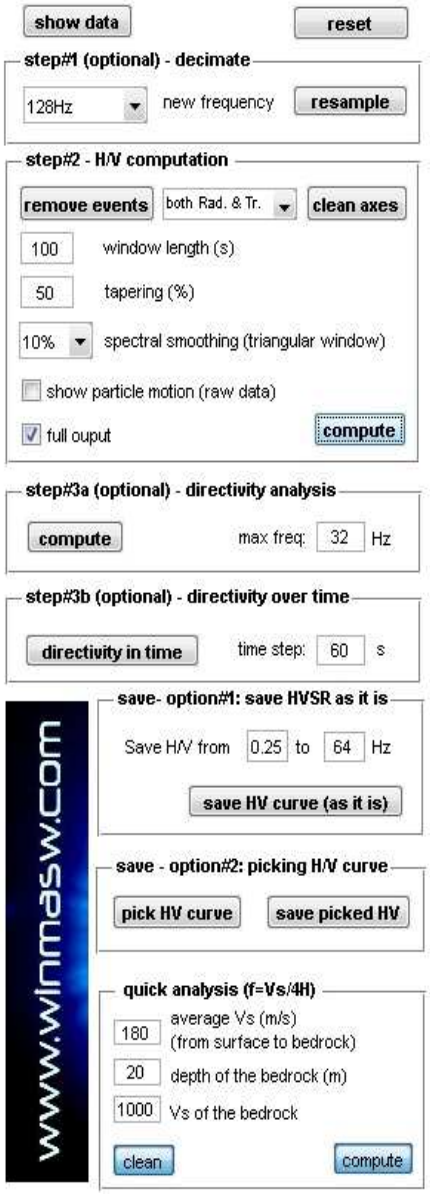
#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

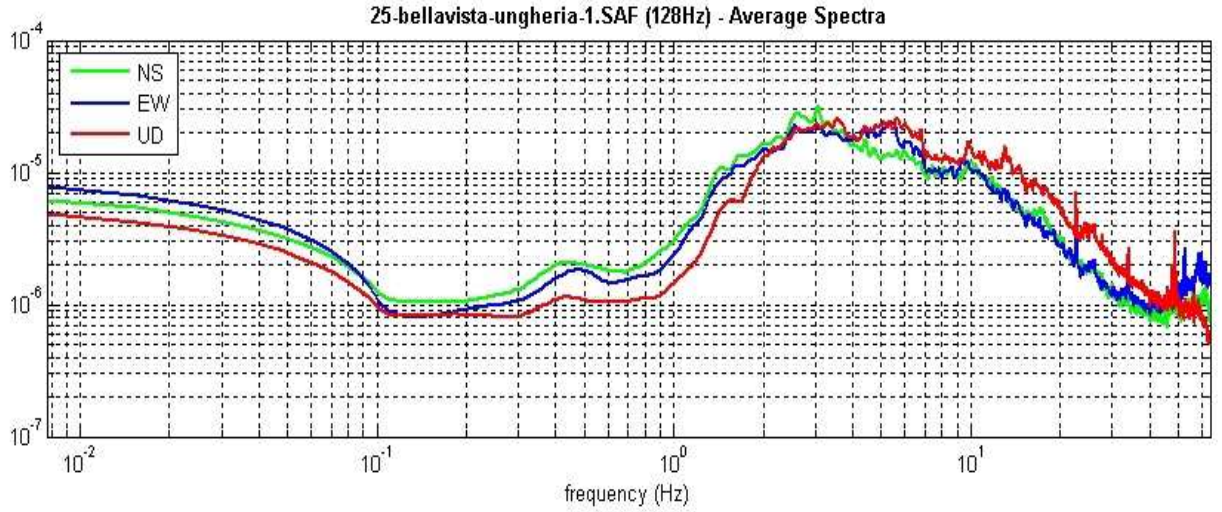
#5. [sigmaf < epsilon(f0)]: 0.316 > 0.114 (NO)

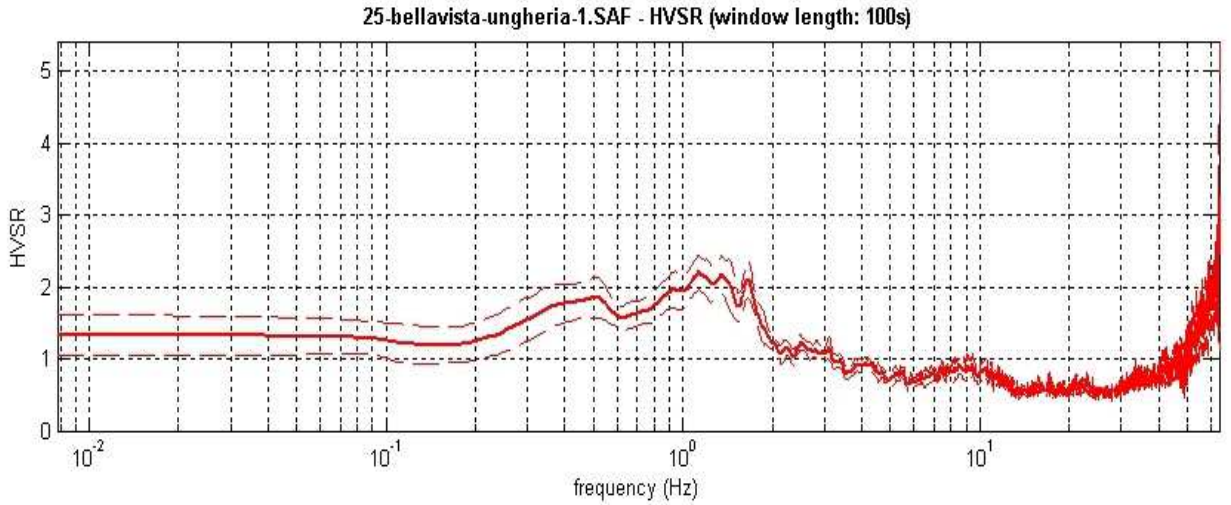
#6. [sigmaA(f0) < theta(f0)]: 0.237 < 1.78 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

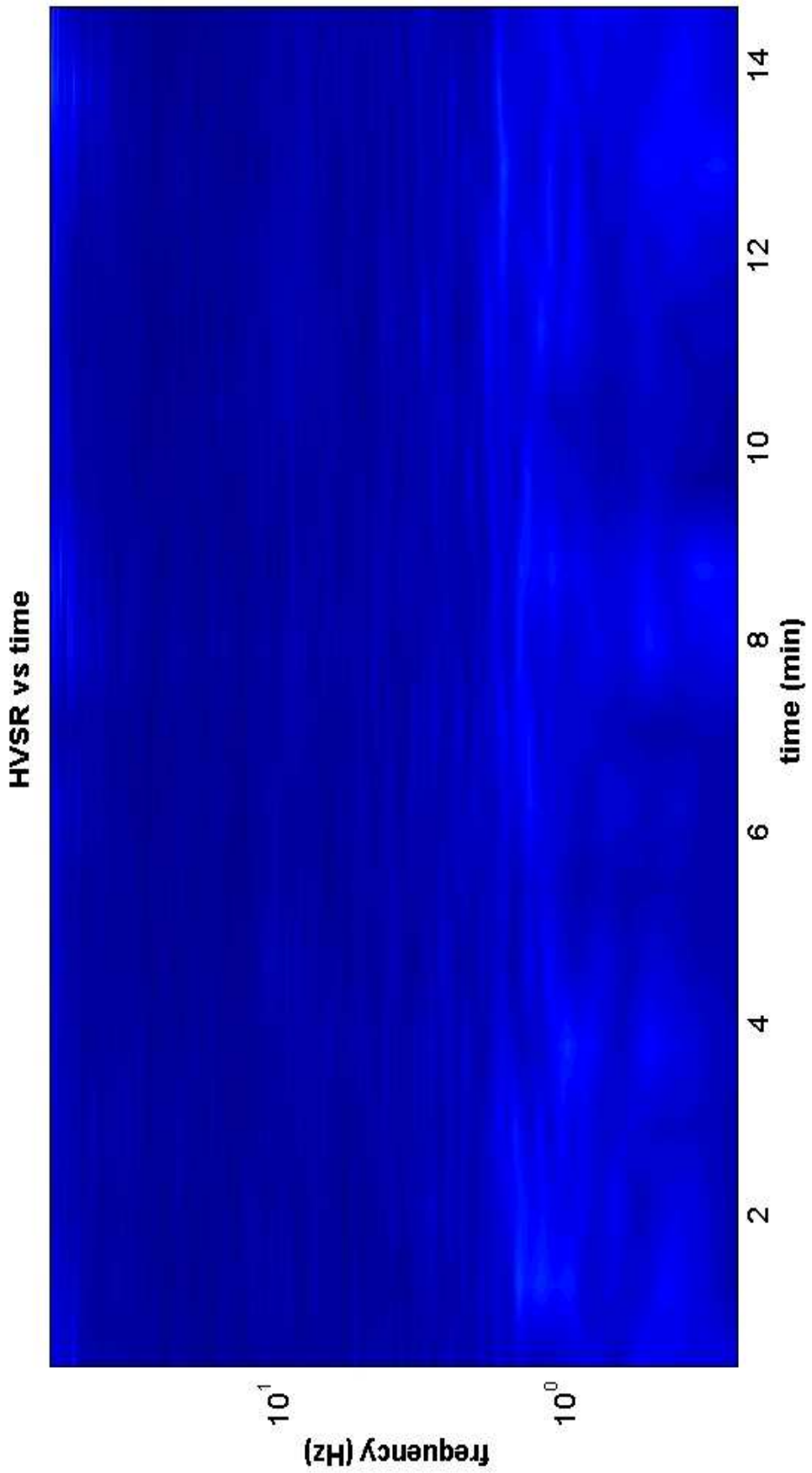
Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

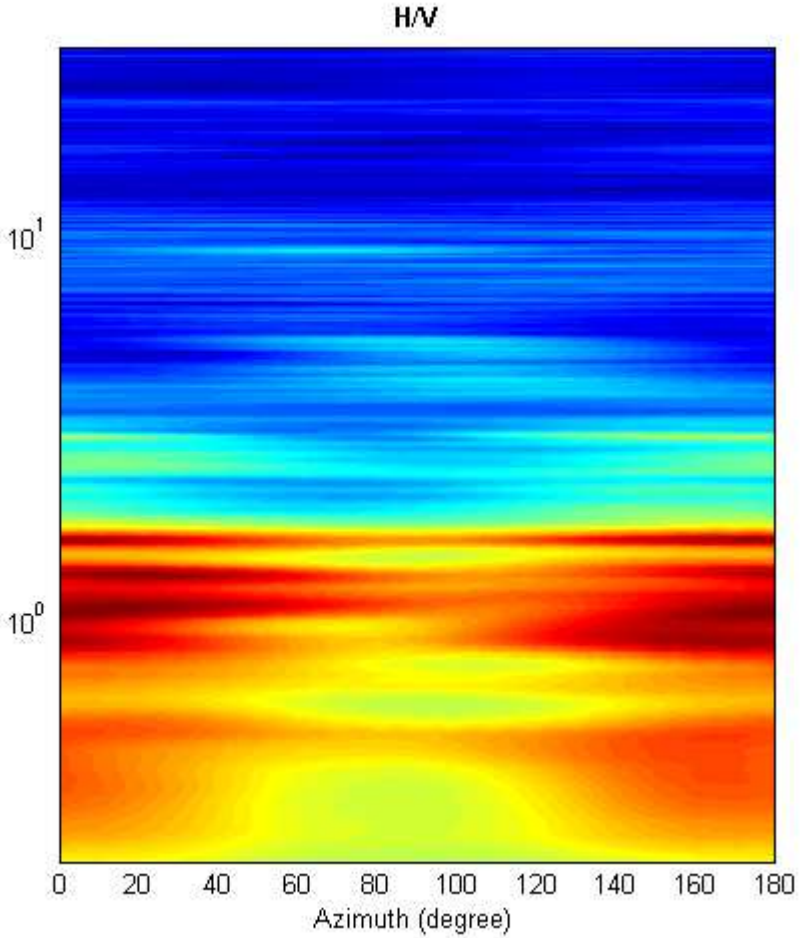


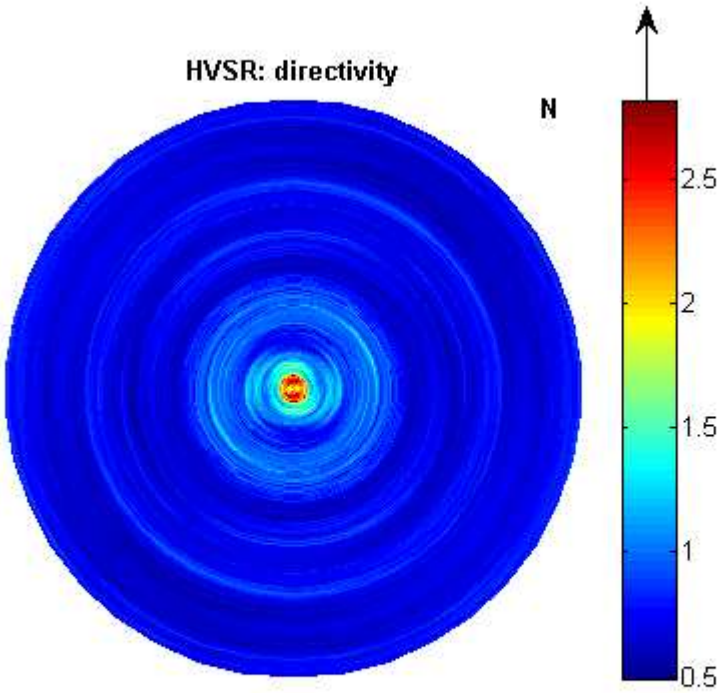




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^{1}
10^{0}
2
4
6
8
10
12
14
time (min)


H/V
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
2.5
2
1.5
1
0.5

Misura 35

Date: 14 8 2012

Time: 16 48

Dataset: 26-lecchi-1.SAF

Sampling frequency (Hz): 128

Window length (sec): 100

Length of analysed temporal sequence (min): 22.2

Tapering (%): 50

==========

In the following the results considering the data in the 0.2-3.0Hz frequency range

Peak frequency (Hz): 1.3 (±0.2)

Peak HVSR value: 2.1 (±0.2)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 1.3 > 0.1 (OK)

#2. [nc > 200]: 3262 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: (NO)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 2.2Hz (OK)

#3. [A0 > 2]: 2.1 > 2 (OK)

#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

#5. [sigmaf < epsilon(f0)]: 0.237 > 0.130 (NO)

#6. [sigmaA(f0) < theta(f0)]: 0.240 < 1.78 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

show data | reset

step#1 (optional) - decimate

128Hz | new frequency | resample

step#2 - H/V computation

remove events | both Rad. & Tr. | clean axes

100 window length (s)

50 tapering (%)

20% spectral smoothing (triangular window)

☐ show particle motion (raw data)

☑ full ouput | compute

step#3a (optional) - directivity analysis

compute | max freq: 32 Hz

step#3b (optional) - directivity over time

directivity in time | time step: 60 s

www.winmasw.com

save- option#1: save HVSR as it is

Save H/V from 0.25 to 64 Hz

save HV curve (as it is)

save - option#2: picking H/V curve

pick HV curve | save picked HV

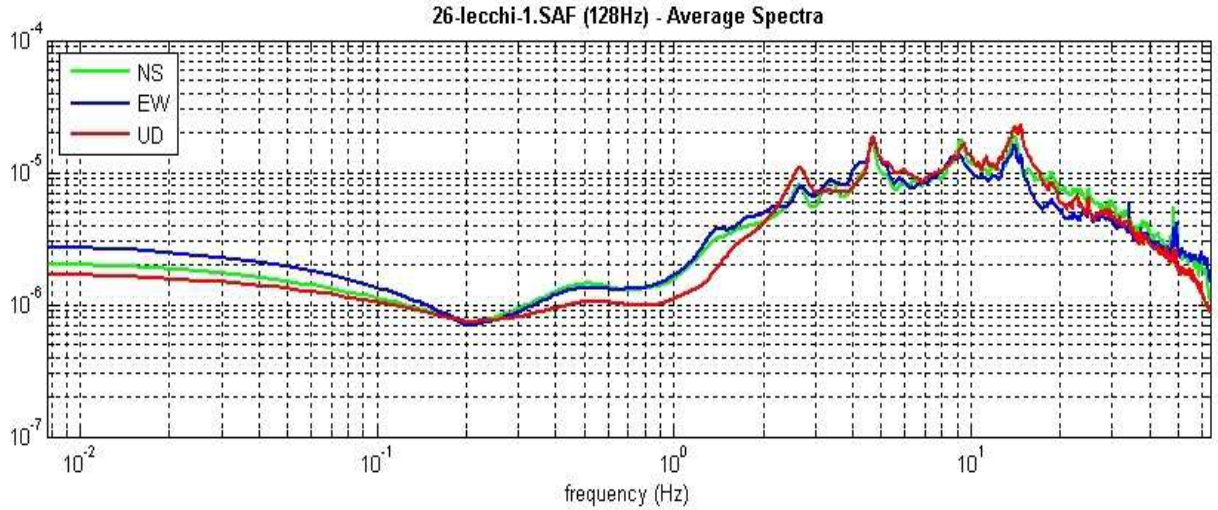
quick analysis (f=Vs/4H)

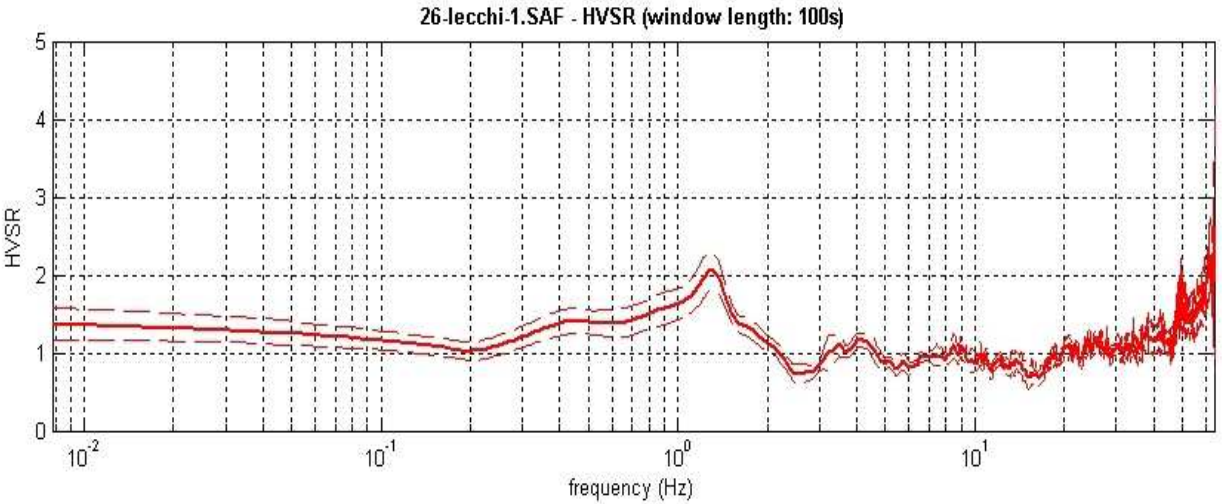
180 average Vs (m/s) (from surface to bedrock)

20 depth of the bedrock (m)

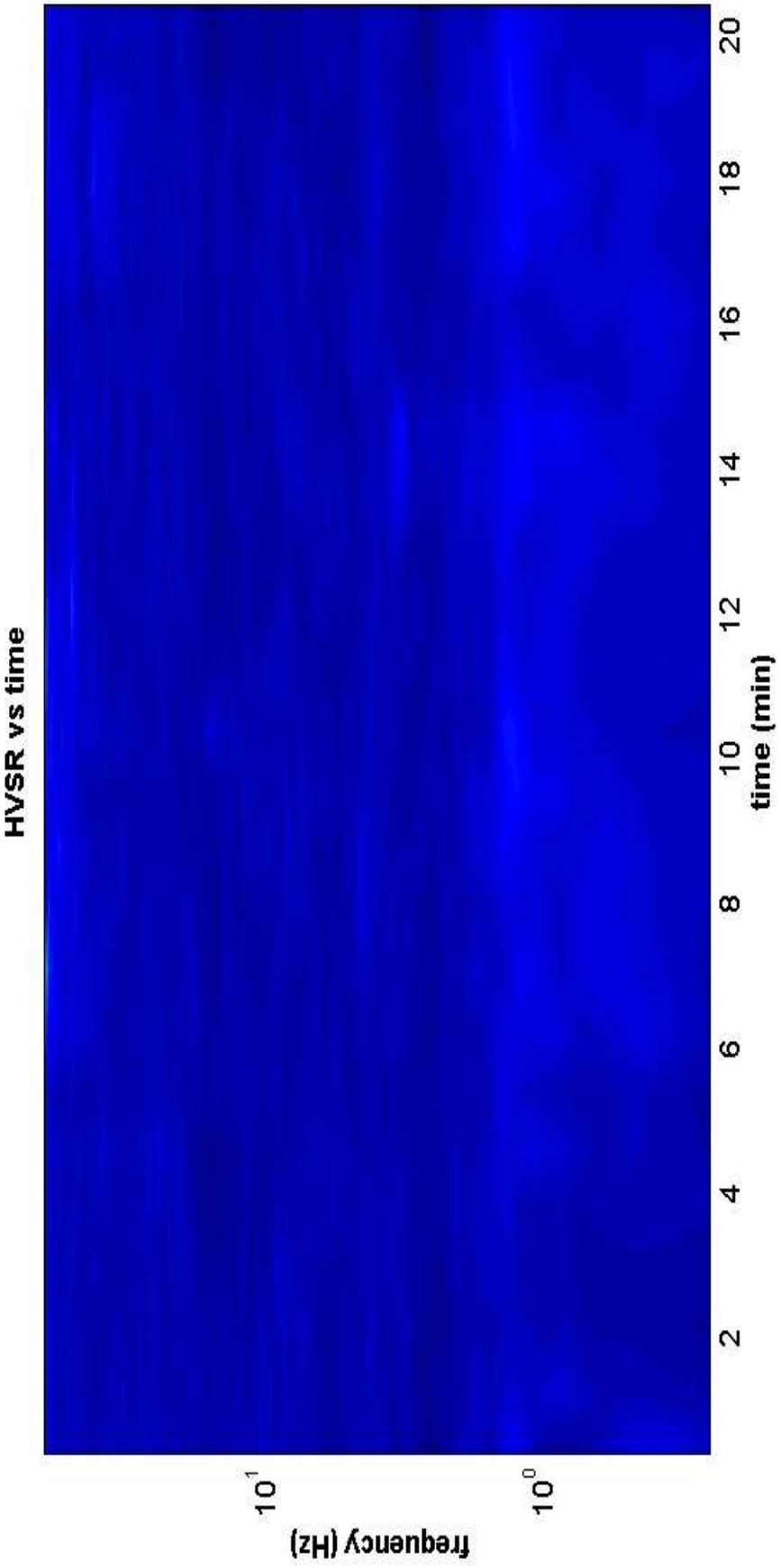
1000 Vs of the bedrock

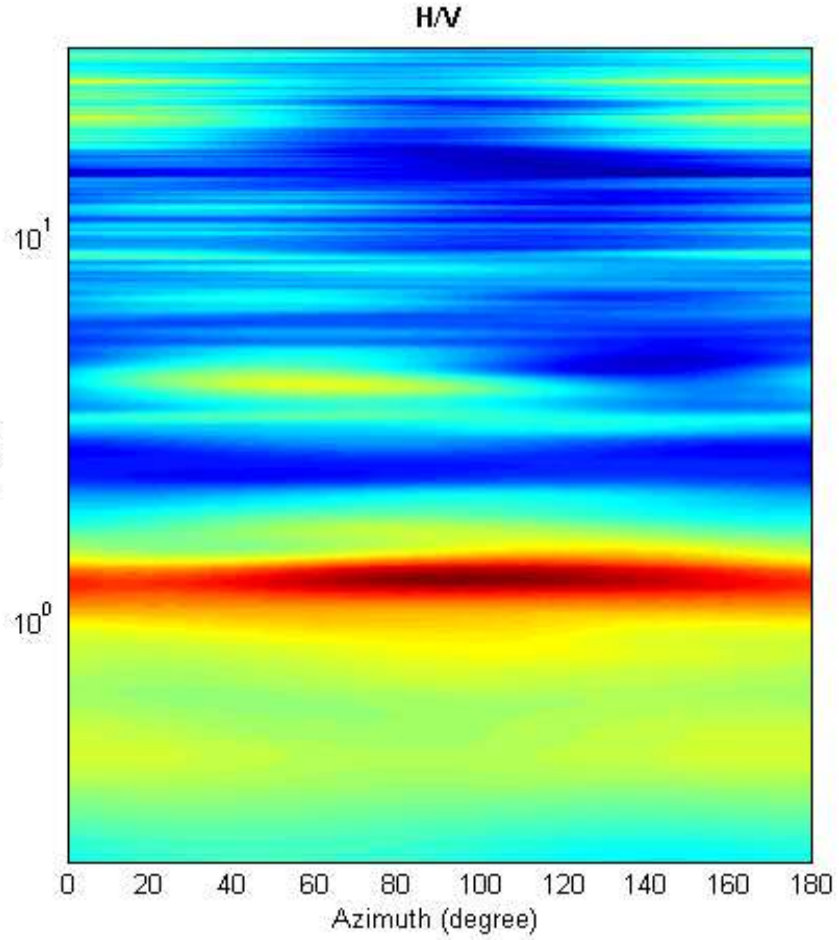
clean | compute

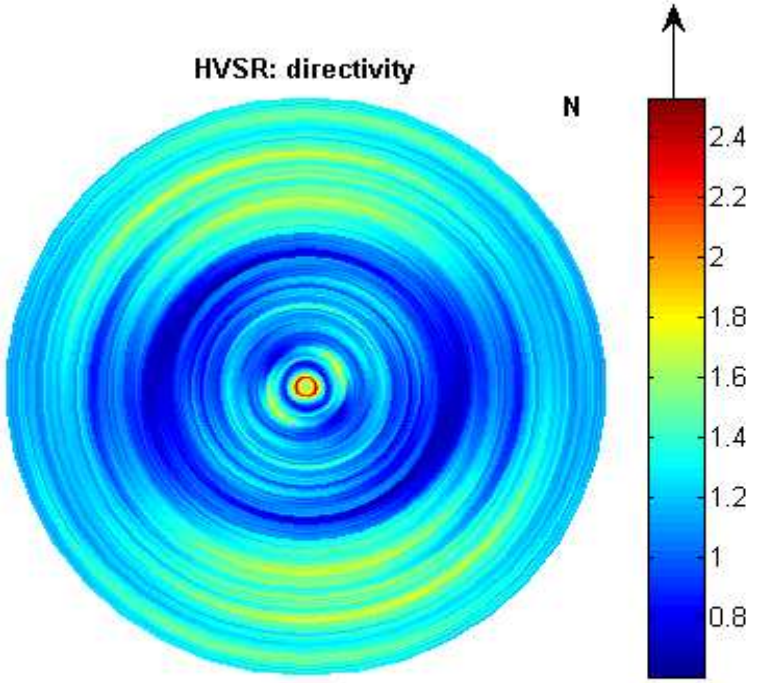




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^1
10^0
2
4
6
8
10
12
14
16
18
20
time (min)


H/V
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8

Misura 36

Date: 16 8 2012

Time: 17 53

Dataset: 31-rocca_Staggia-2.SAF

Sampling frequency (Hz): 128

Window length (sec): 50

Length of analysed temporal sequence (min): 18.6

Tapering (%): 40

==========

In the following the results considering the data in the 0.8-2.5Hz frequency range

Peak frequency (Hz): 1.2 (±0.2)

Peak HVSR value: 2.1 (±0.3)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 1.2 > 0.2 (OK)

#2. [nc > 200]: 2655 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: (NO)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 2.3Hz (OK)

#3. [A0 > 2]: 2.1 > 2 (OK)

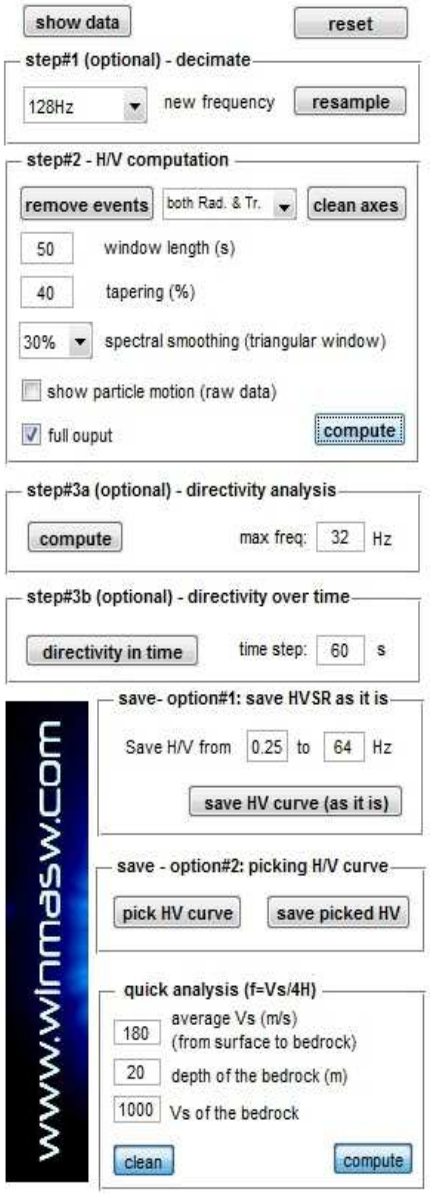
#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

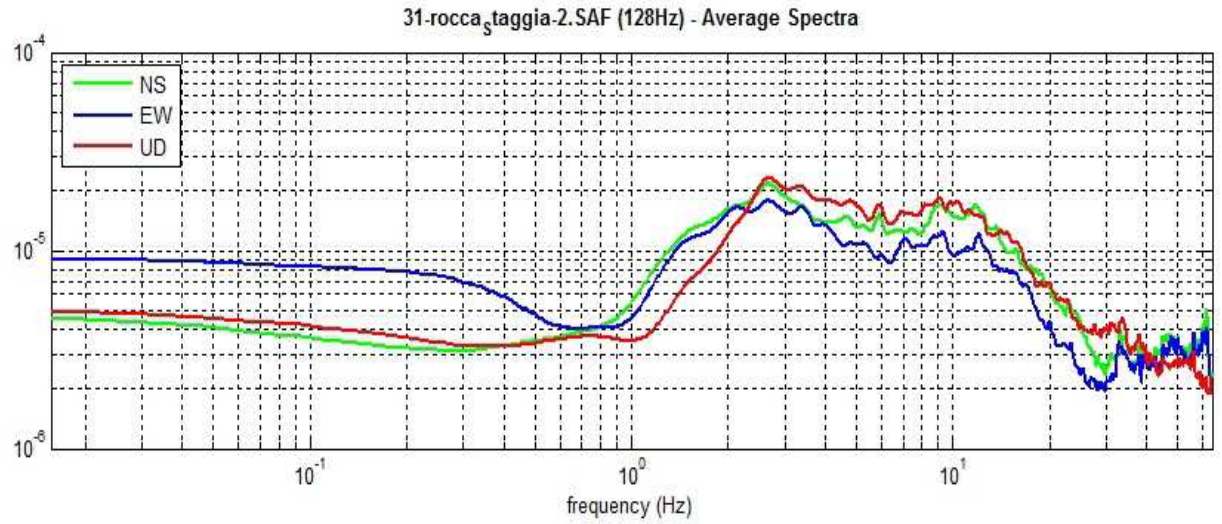
#5. [sigmaf < epsilon(f0)]: 0.247 > 0.123 (NO)

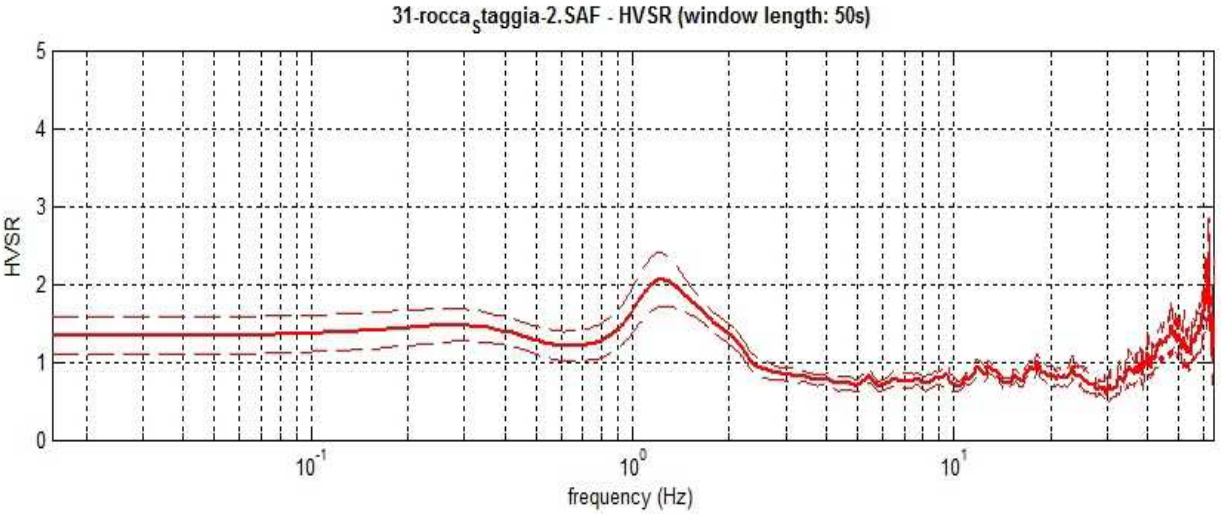
#6. [sigmaA(f0) < theta(f0)]: 0.346 < 1.78 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

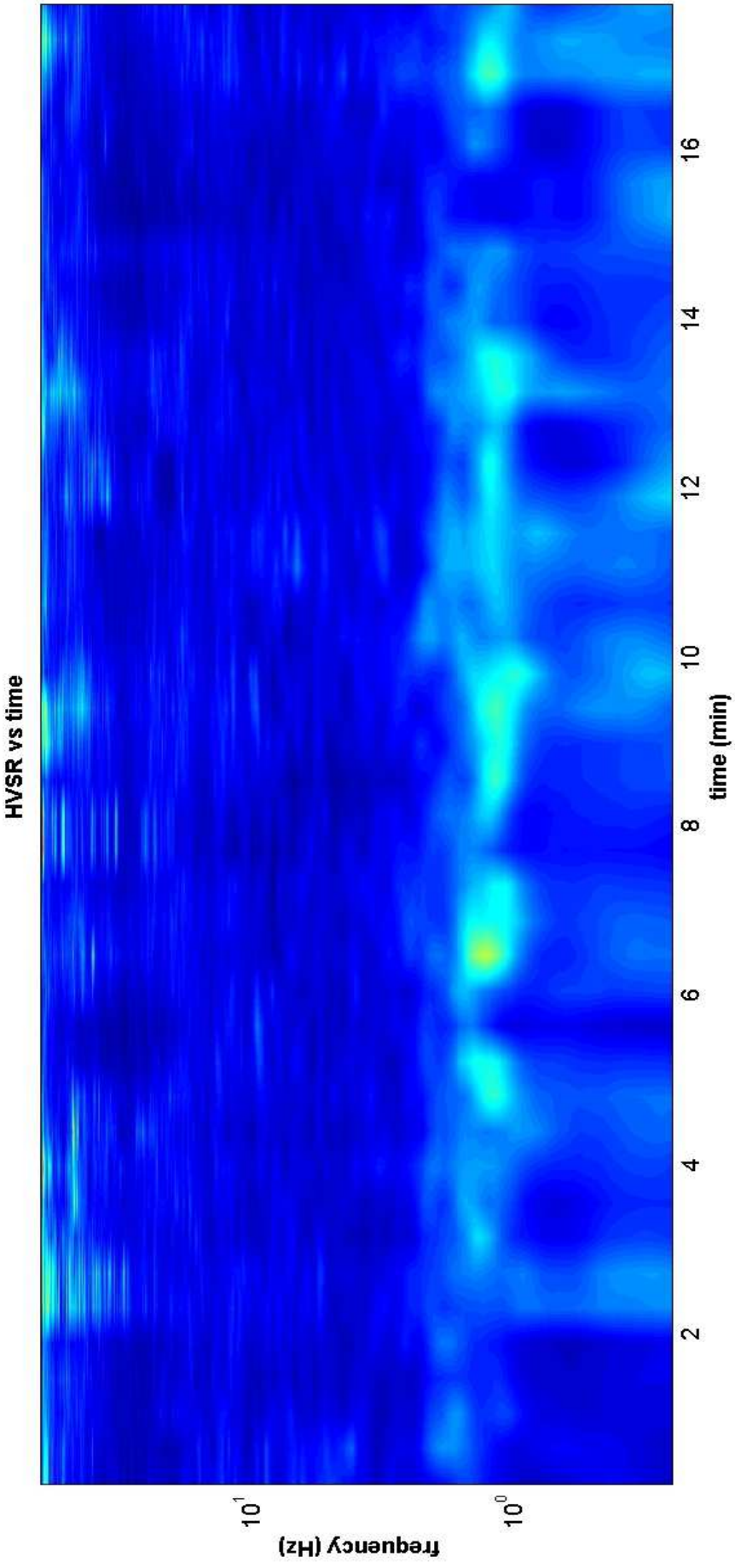
Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

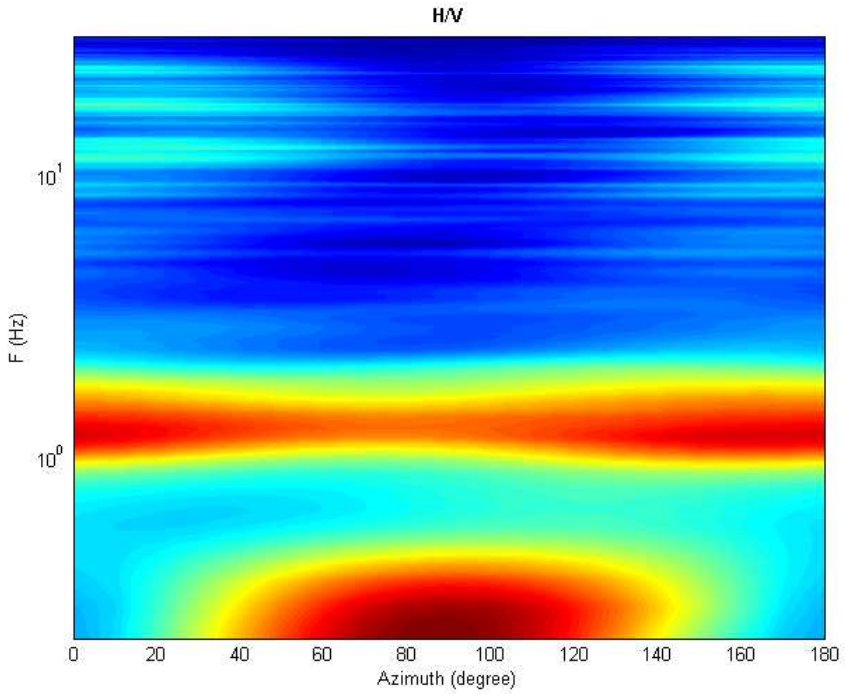


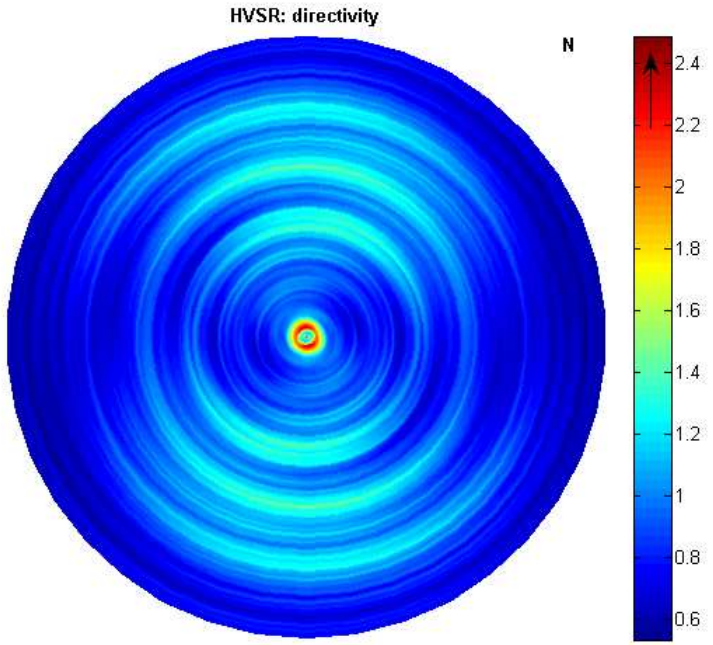




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^1
10^0
2
4
6
8
10
12
14
16
time (min)


H/V
F (Hz)
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6

Misura 37

Date: 14 8 2012

Time: 17 47

Dataset: 28-Capannuccia_Staggia-1.SAF

Sampling frequency (Hz): 128

Window length (sec): 100

Length of analysed temporal sequence (min): 24.7

Tapering (%): 20

==========

In the following the results considering the data in the 1.0-3.0Hz frequency range

Peak frequency (Hz): 1.4 (±0.2)

Peak HVSR value: 3.0 (±0.3)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 1.4 > 0.1 (OK)

#2. [nc > 200]: 3807 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: (NO)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 2.1Hz (OK)

#3. [A0 > 2]: 3.0 > 2 (OK)

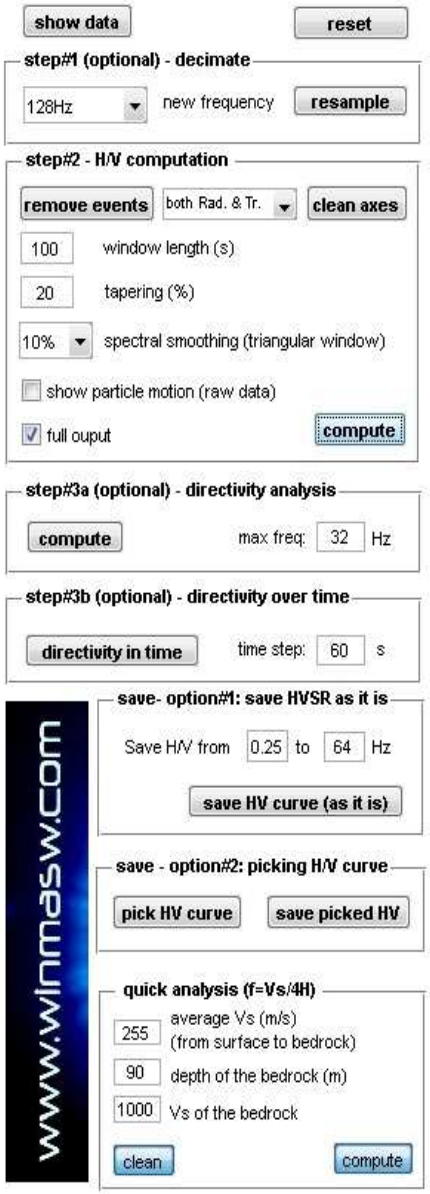
#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

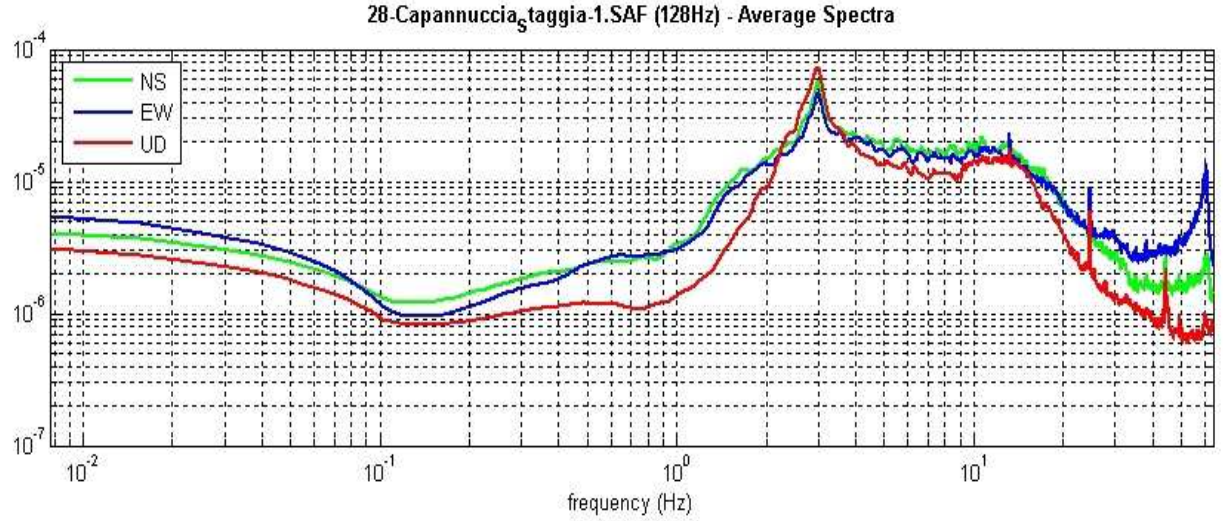
#5. [sigmaf < epsilon(f0)]: 0.182 > 0.136 (NO)

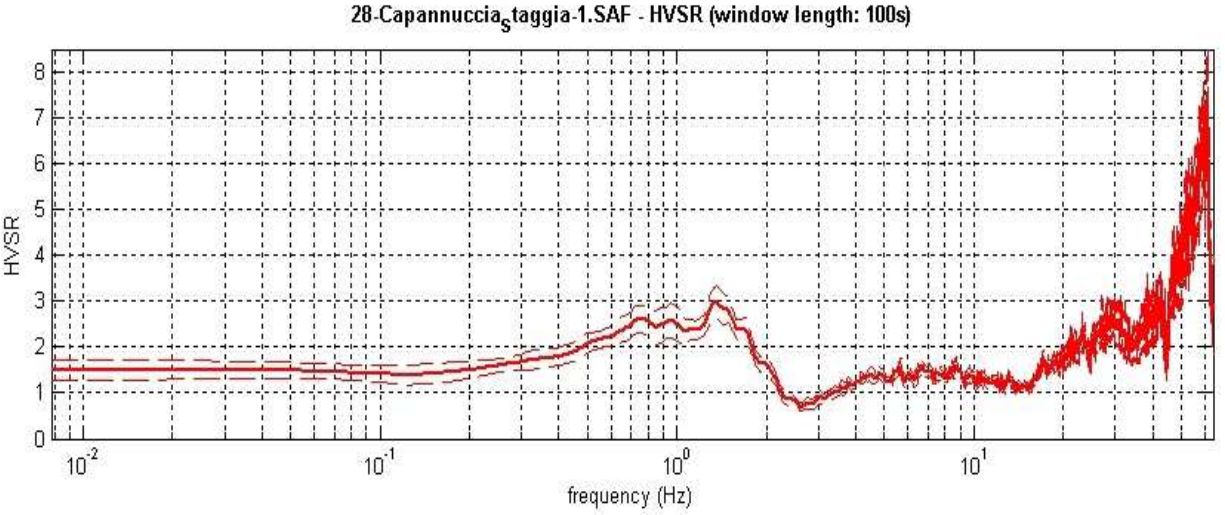
#6. [sigmaA(f0) < theta(f0)]: 0.332 < 1.78 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

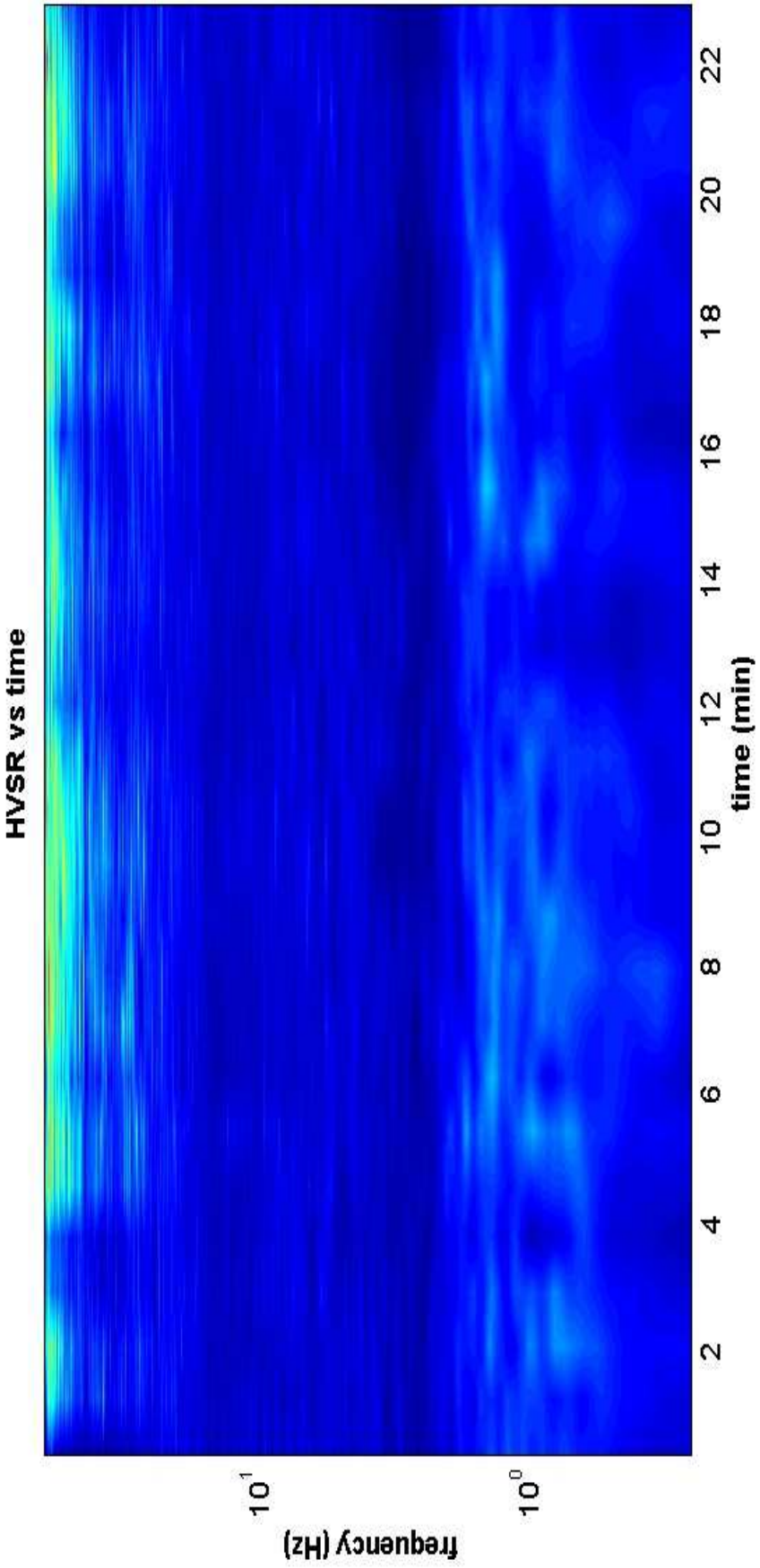
Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

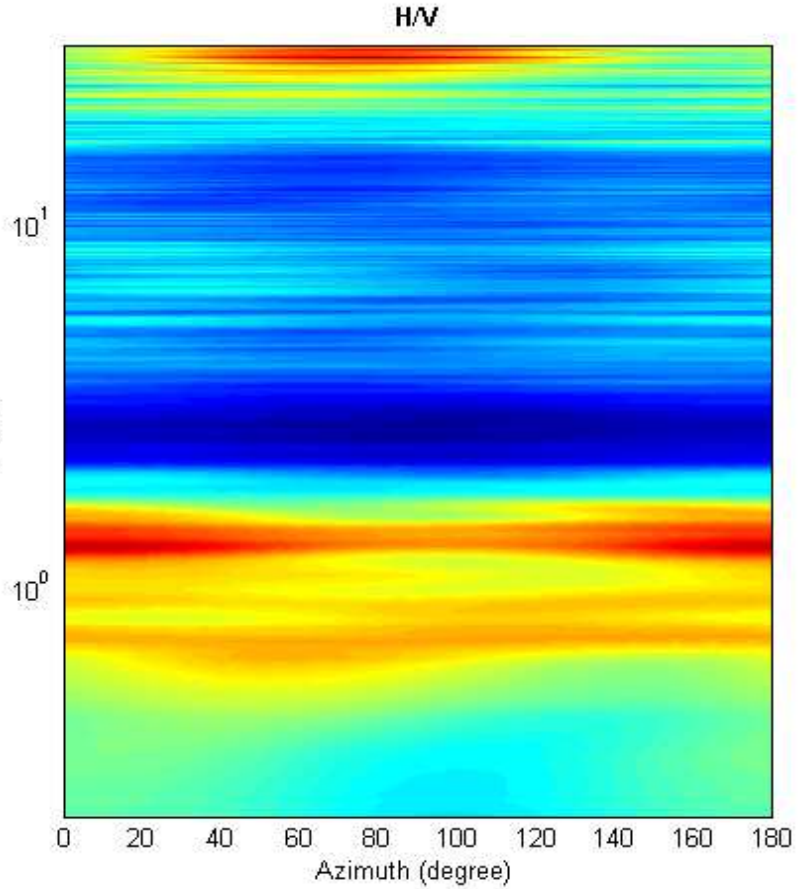


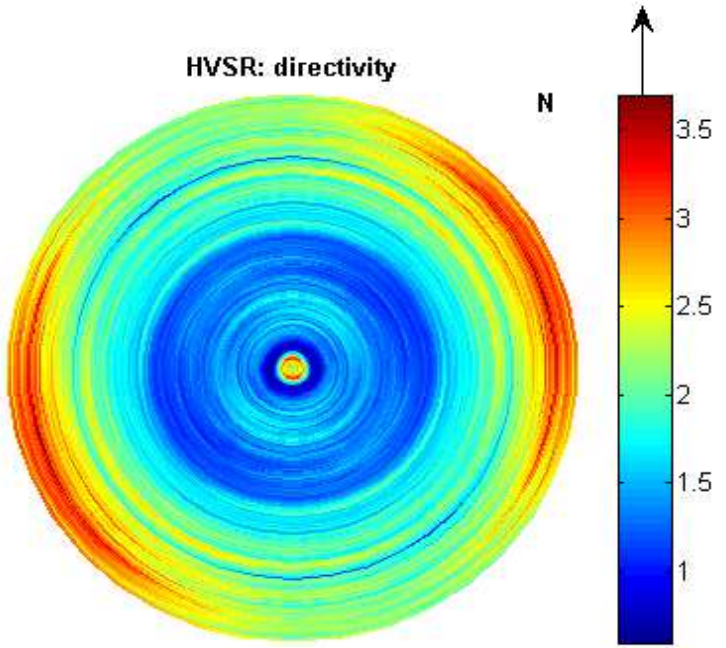




To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^{1}
10^{0}
2
4
6
8
10
12
14
16
18
20
22
time (min)


H/V
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
3.5
3
2.5
2
1.5
1

Misura 38

Date: 16 8 2012

Time: 16 40

Dataset: 29-stadio_Staggia-1.SAF

Sampling frequency (Hz): 128

Window length (sec): 40

Length of analysed temporal sequence (min): 16.7

Tapering (%): 20

==========

In the following the results considering the data in the 0.2-3.0Hz frequency range

Peak frequency (Hz): 1.2 (±0.3)

Peak HVSR value: 3.1 (±0.4)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 1.2 > 0.25 (OK)

#2. [nc > 200]: 2359 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: (NO)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 2.5Hz (OK)

#3. [A0 > 2]: 3.1 > 2 (OK)

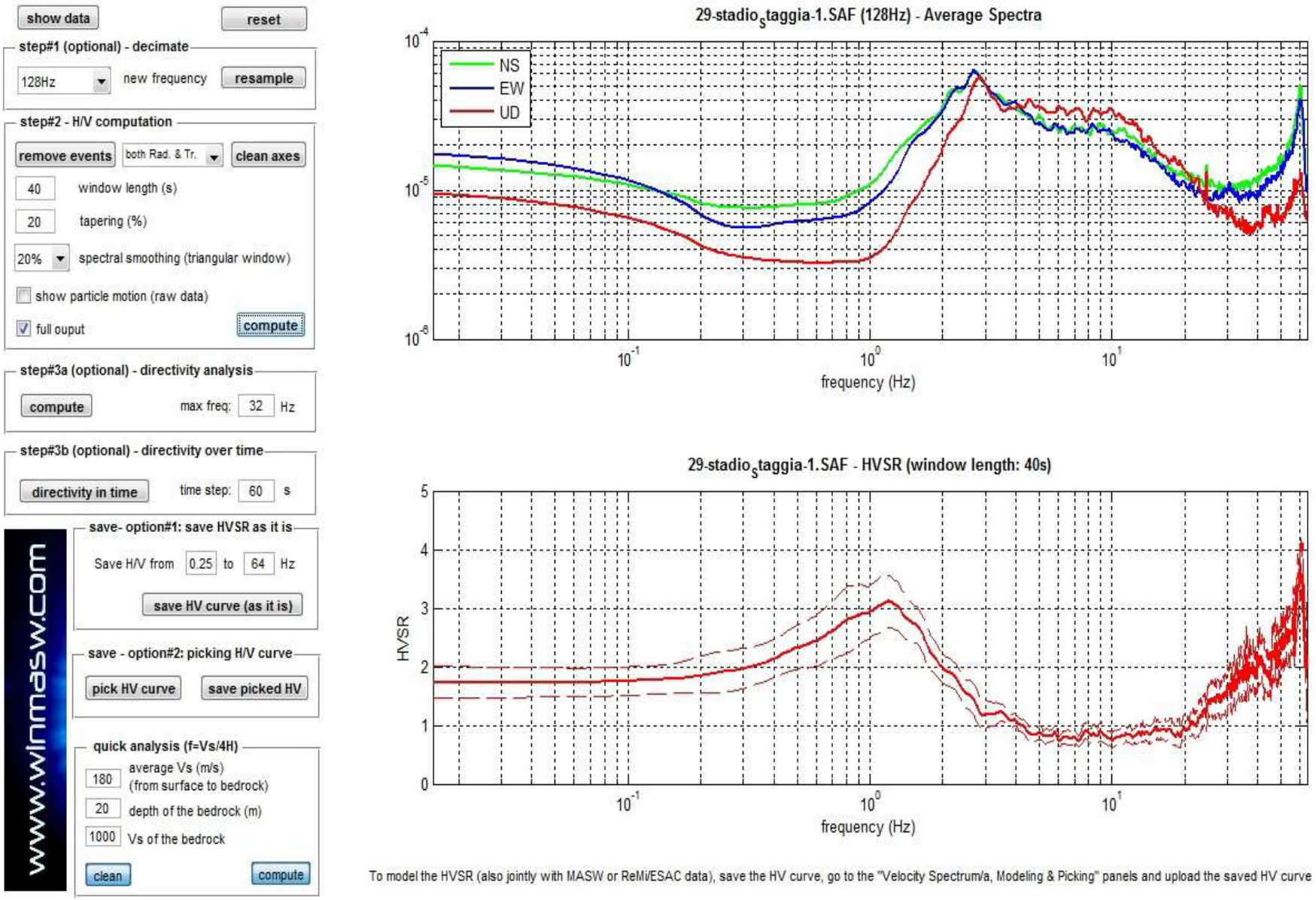
#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

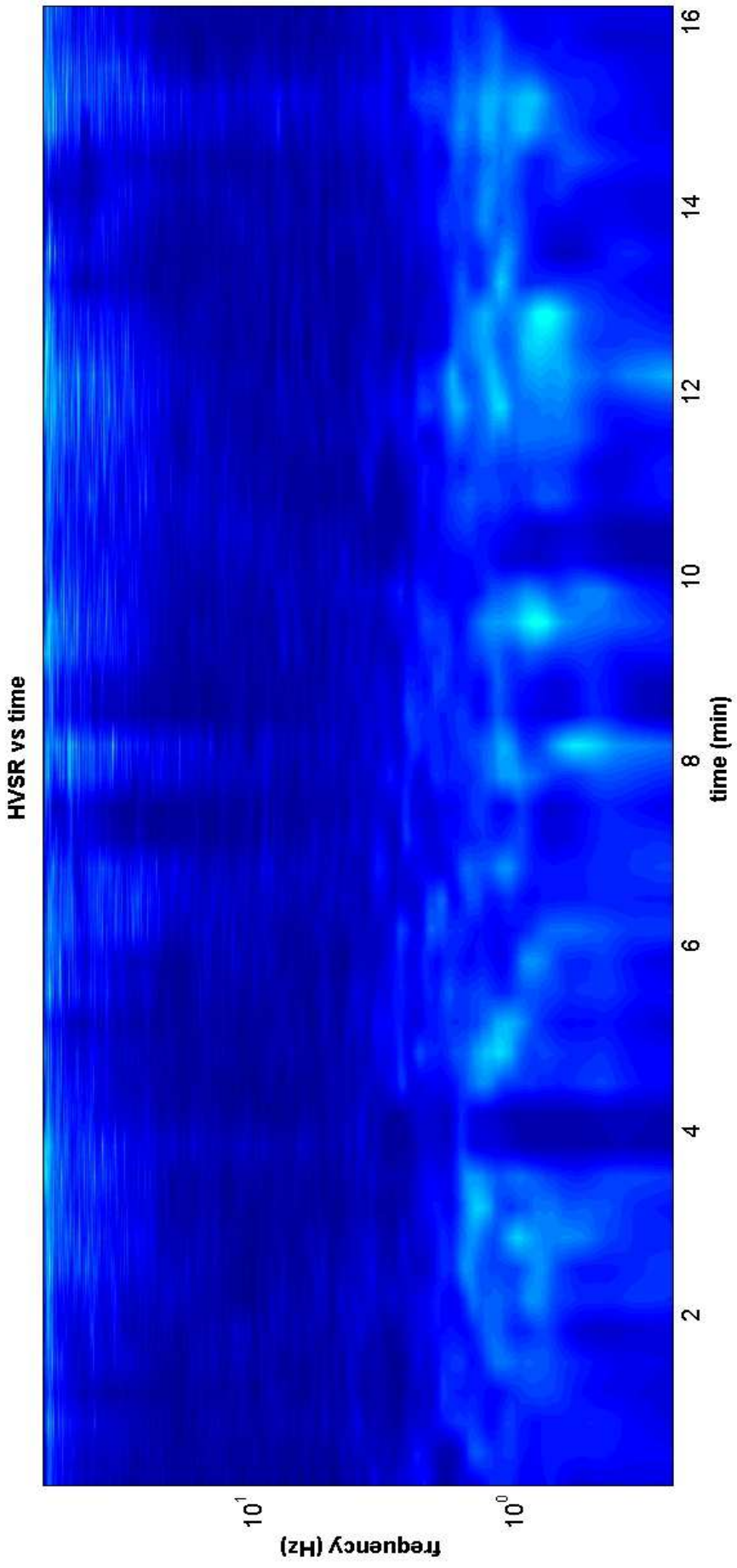
#5. [sigmaf < epsilon(f0)]: 0.277 > 0.120 (NO)

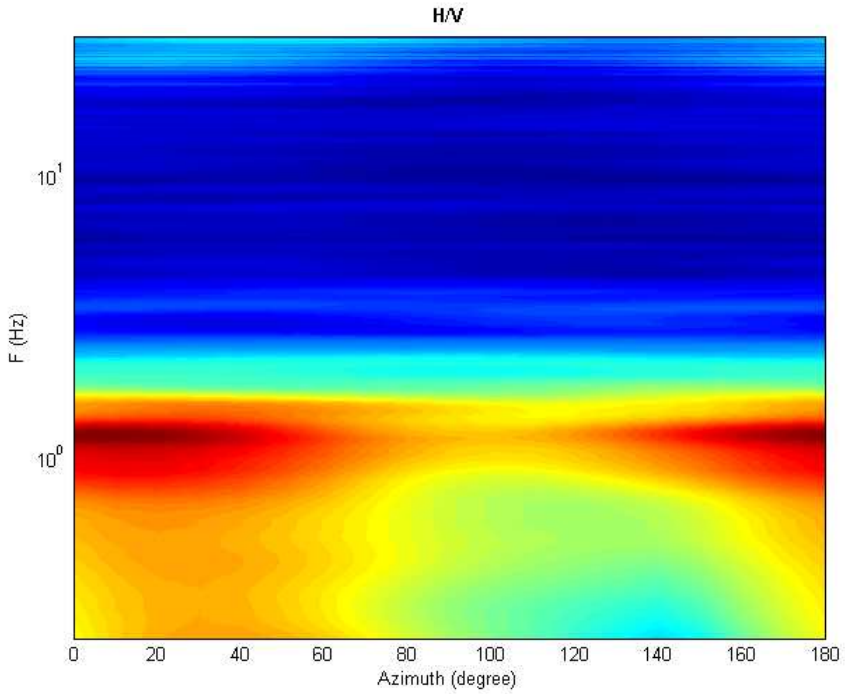
#6. [sigmaA(f0) < theta(f0)]: 0.445 < 1.78 (OK)

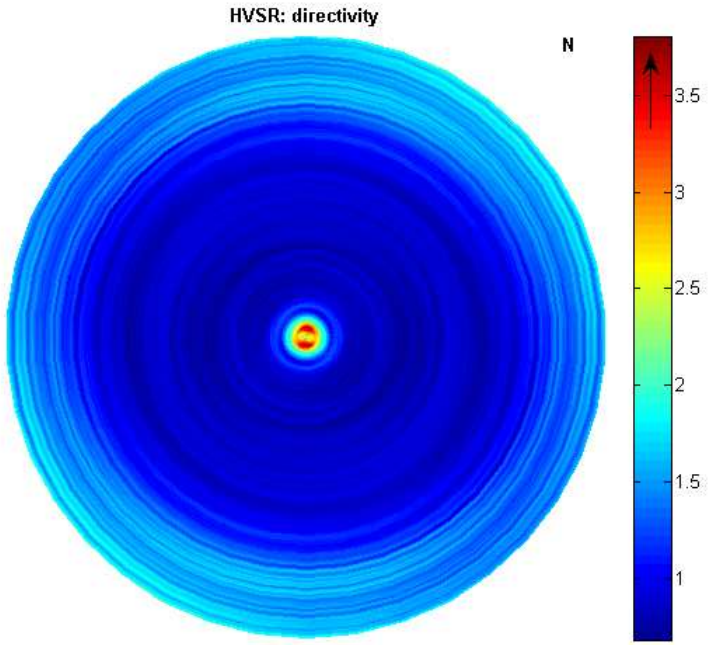
Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.


show data
reset
step#1 (optional) - decimate
128Hz
new frequency
resample
step#2 - H/V computation
remove events
both Rad. & Tr.
clean axes
40
window length (s)
20
tapering (%)
20%
spectral smoothing (triangular window)
show particle motion (raw data)
full ouput
compute
step#3a (optional) - directivity analysis
compute
max freq:
32
Hz
step#3b (optional) - directivity over time
directivity in time
time step:
60
s
www.winmasw.com
save- option#1: save HVSR as it is
Save H/V from
0.25
to
64
Hz
save HV curve (as it is)
save - option#2: picking H/V curve
pick HV curve
save picked HV
quick analysis (f=Vs/4H)
180
average Vs (m/s)
(from surface to bedrock)
20
depth of the bedrock (m)
1000
Vs of the bedrock
clean
compute
29-stadio_staggia-1.SAF (128Hz) - Average Spectra
NS
EW
UD
frequency (Hz)
29-stadio_staggia-1.SAF - HVSR (window length: 40s)
HVSR
frequency (Hz)
To model the HVSR (also jointly with MASW or ReMi/ESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
time (min)
2
4
6
8
10
12
14
16
frequency (Hz)
10^{1}
10^{0}


H/V
F (Hz)
10^1
10^0
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)


HVSR: directivity
N
3.5
3
2.5
2
1.5
1

Misura 39

Date: 16 8 2012

Time: 17 6

Dataset: 30-crocifisso_Staggia-2.SAF

Sampling frequency (Hz): 128

Window length (sec): 40

Length of analysed temporal sequence (min): 19.4

Tapering (%): 10

==========

In the following the results considering the data in the 0.2-2.0Hz frequency range

Peakfrequency (Hz): 0.9 (±0.1)

Peak HVSR value: 3.5 (±0.3)

==========

Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 0.9 > 0.25 (OK)

#2. [nc > 200]: 2102 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

==========

Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: yes, at frequency 0.3Hz (OK)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 1.5Hz (OK)

#3. [A0 > 2]: 3.5 > 2 (OK)

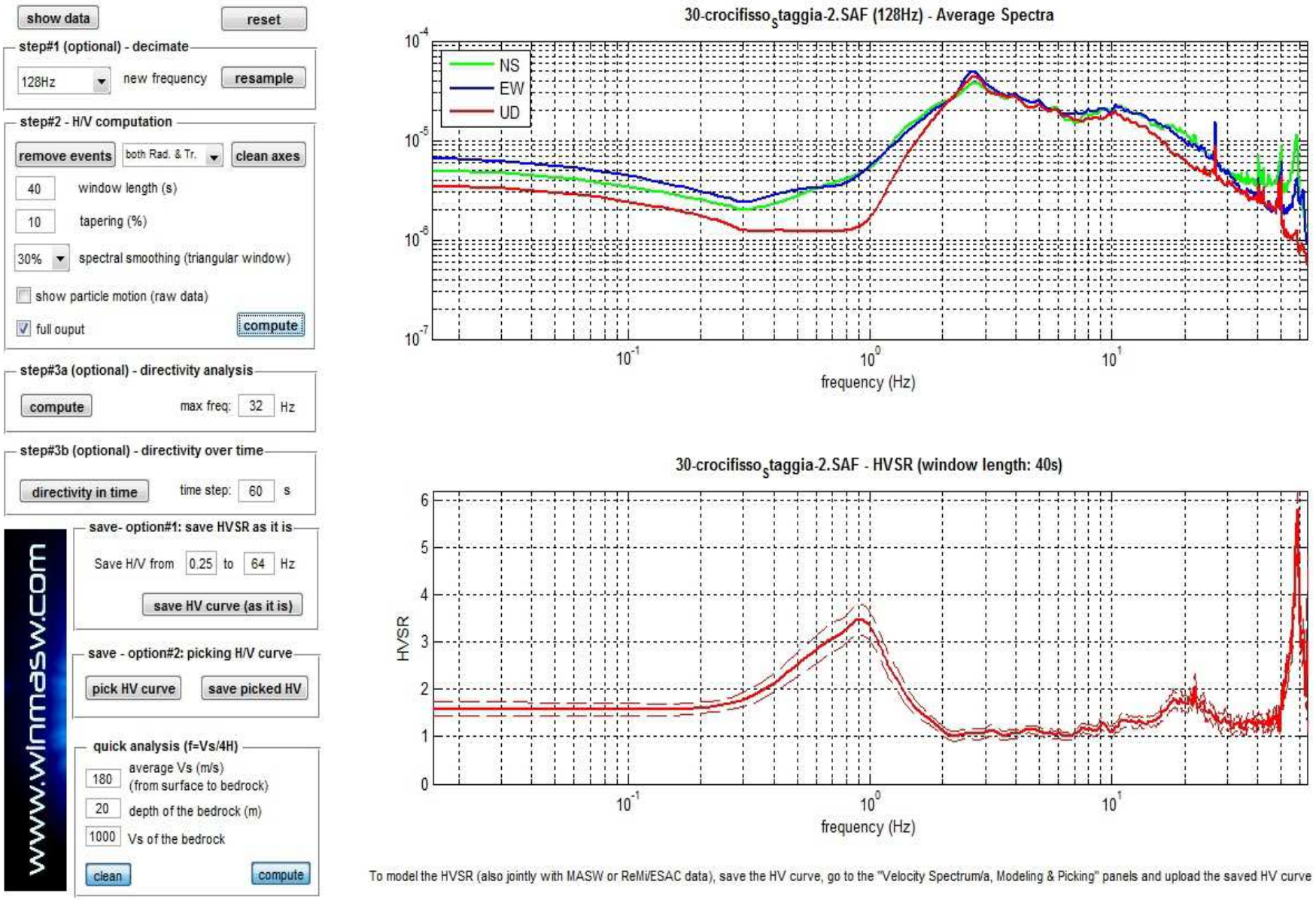
#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

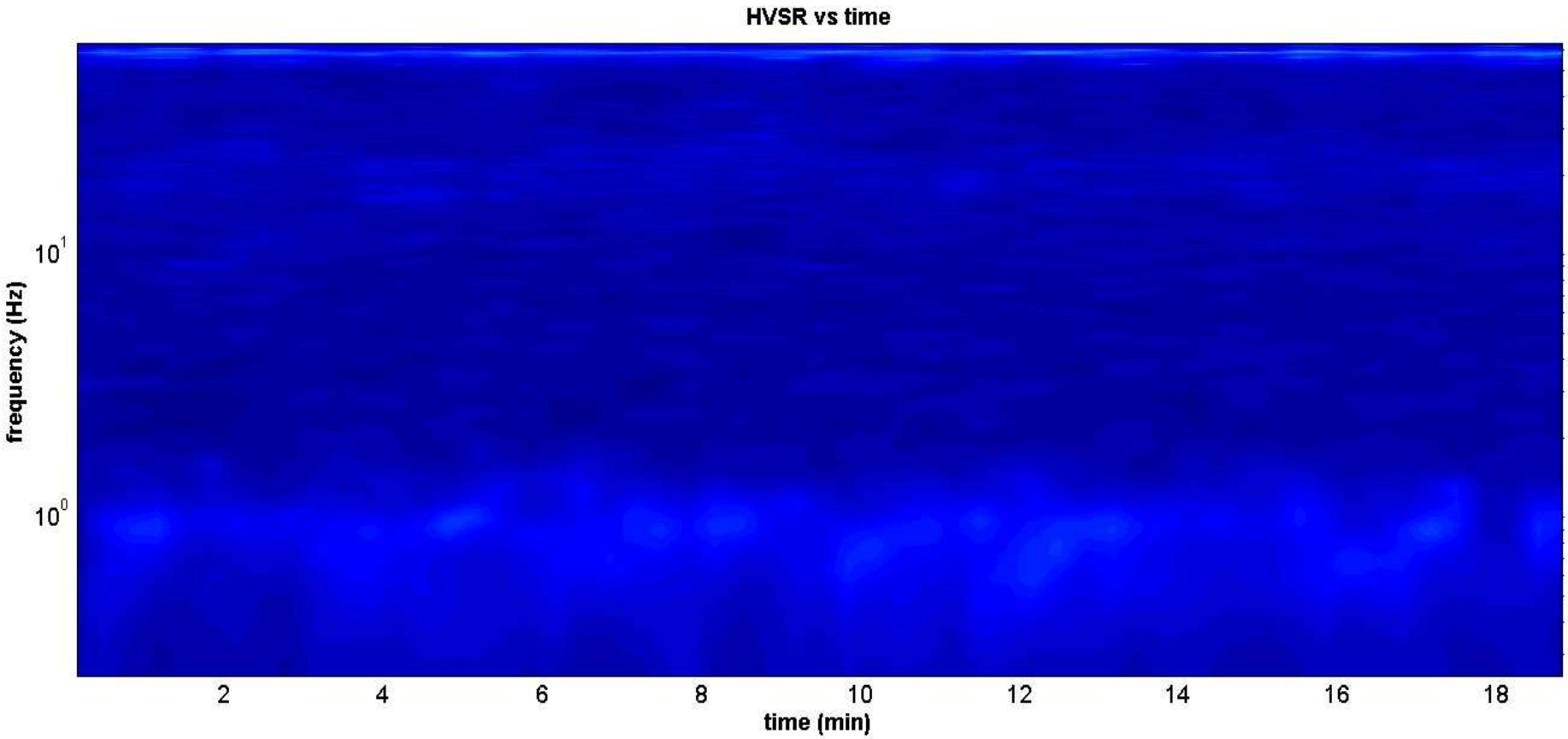
#5. [sigmaf < epsilon(f0)]: 0.142 > 0.138 (NO)

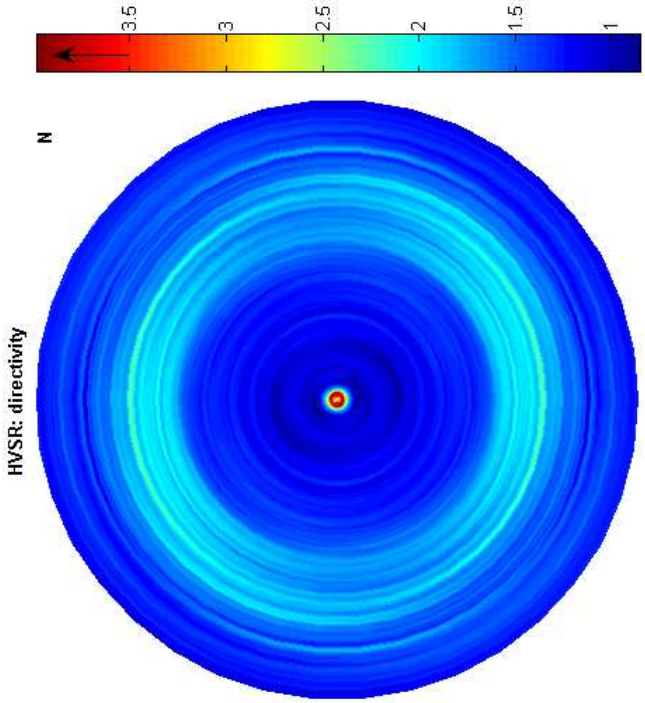
#6. [sigmaA(f0) < theta(f0)]: 0.323 < 2 (OK)

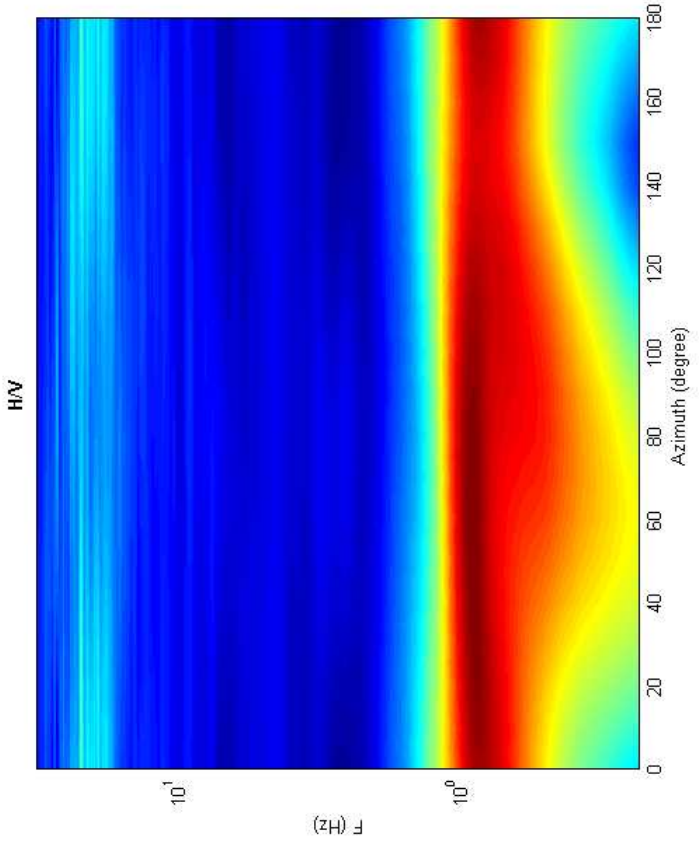
Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.


show data
reset
step#1 (optional) - decimate
128Hz
new frequency
resample
step#2 - H/V computation
remove events
both Rad. & Tr.
clean axes
40
window length (s)
10
tapering (%)
30%
spectral smoothing (triangular window)
show particle motion (raw data)
full ouput
compute
step#3a (optional) - directivity analysis
compute
max freq:
32
Hz
step#3b (optional) - directivity over time
directivity in time
time step:
60
s
www.winmasw.com
save- option#1: save HVSR as it is
Save H/V from
0.25
to
64
Hz
save HV curve (as it is)
save - option#2: picking H/V curve
pick HV curve
save picked HV
quick analysis (f=Vs/4H)
180
average Vs (m/s)
(from surface to bedrock)
20
depth of the bedrock (m)
1000
Vs of the bedrock
clean
compute
30-crocifisso_staggia-2.SAF (128Hz) - Average Spectra
NS
EW
UD
frequency (Hz)
30-crocifisso_staggia-2.SAF - HVSR (window length: 40s)
HVSR
frequency (Hz)
To model the HVSR (also jointly with MASW or ReMiESAC data), save the HV curve, go to the "Velocity Spectrum/a, Modeling & Picking" panels and upload the saved HV curve


HVSR vs time
frequency (Hz)
10^1
10^0
2
4
6
8
10
12
14
16
18
time (min)


HVSR: directivity
N
3.5
3
2.5
2
1.5
1


H/V
F (Hz)
10^{1}
10^{0}
0
20
40
60
80
100
120
140
160
180
Azimuth (degree)

Misura 40

Date: 14 8 2012

Time: 17 5

Dataset: 27-Fontana_Staggia-1.SAF

Sampling frequency (Hz): 128

Window length (sec): 40

Length of analysed temporal sequence (min): 20.0

Tapering (%): 10

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In the following the results considering the data in the 0.2-3.0Hz frequency range

Peak frequency (Hz): 0.7 (±0.1)

Peak HVSR value: 4.6 (±0.8)

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Criteria for a reliable H/V curve

#1. [f0 > 10/Lw]: 0.7 > 0.25 (OK)

#2. [nc > 200]: 1623 > 200 (OK)

#3. [f0>0.5Hz; sigmaA(f) < 2 for 0.5f0 < f < 2f0] (OK)

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Criteria for a clear H/V peak (at least 5 should be fullfilled)

#1. [exists f- in the range [f0/4, f0] | AH/V(f-) < A0/2]: yes, at frequency 0.5Hz (OK)

#2. [exists f+ in the range [f0, 4f0] | AH/V(f+) < A0/2]: yes, at frequency 0.9Hz (OK)

#3. [A0 > 2]: 4.6 > 2 (OK)

#4. [fpeak[Ah/v(f) ± sigmaA(f)] = f0 ± 5%]: (OK)

#5. [sigmaf < epsilon(f0)]: 0.073 < 0.103 (OK)

#6. [sigmaA(f0) < theta(f0)]: 0.796 < 2 (OK)

Please, be aware of possible industrial/man-induced peaks or spurious peaks due to meaningless numerical instabilities.

Remember that SESAME criteria should be considered in a flexible perspective and that if you modify the processing parameters they can change.

show data | reset

step#1 (optional) - decimate

128Hz | new frequency | resample

step#2 - H/V computation

remove events | both Rad. & Tr. | clean axes

40 window length (s)

10 tapering (%)

10% spectral smoothing (triangular window)

☐ show particle motion (raw data)

☑ full ouput | compute

step#3a (optional) - directivity analysis

compute | max freq: 32 Hz

step#3b (optional) - directivity over time

directivity in time | time step: 60 s

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save- option#1: save HVSR as it is

Save H/V from 0.25 to 64 Hz

save HV curve (as it is)

save - option#2: picking H/V curve

pick HV curve | save picked HV

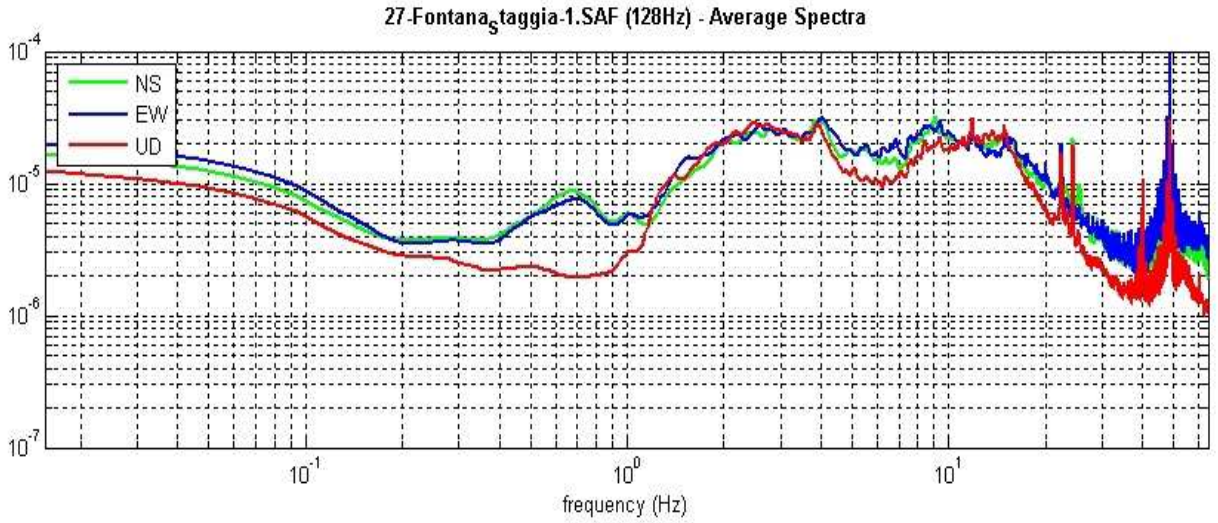
quick analysis (f=Vs/4H)

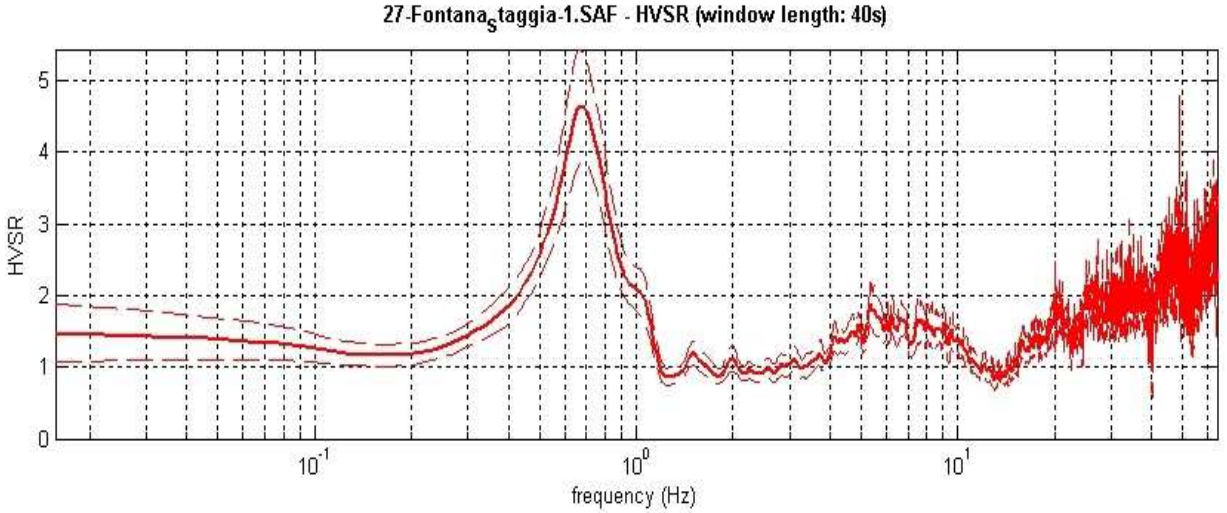
180 average Vs (m/s) (from surface to bedrock)

20 depth of the bedrock (m)

1000 Vs of the bedrock

clean | compute





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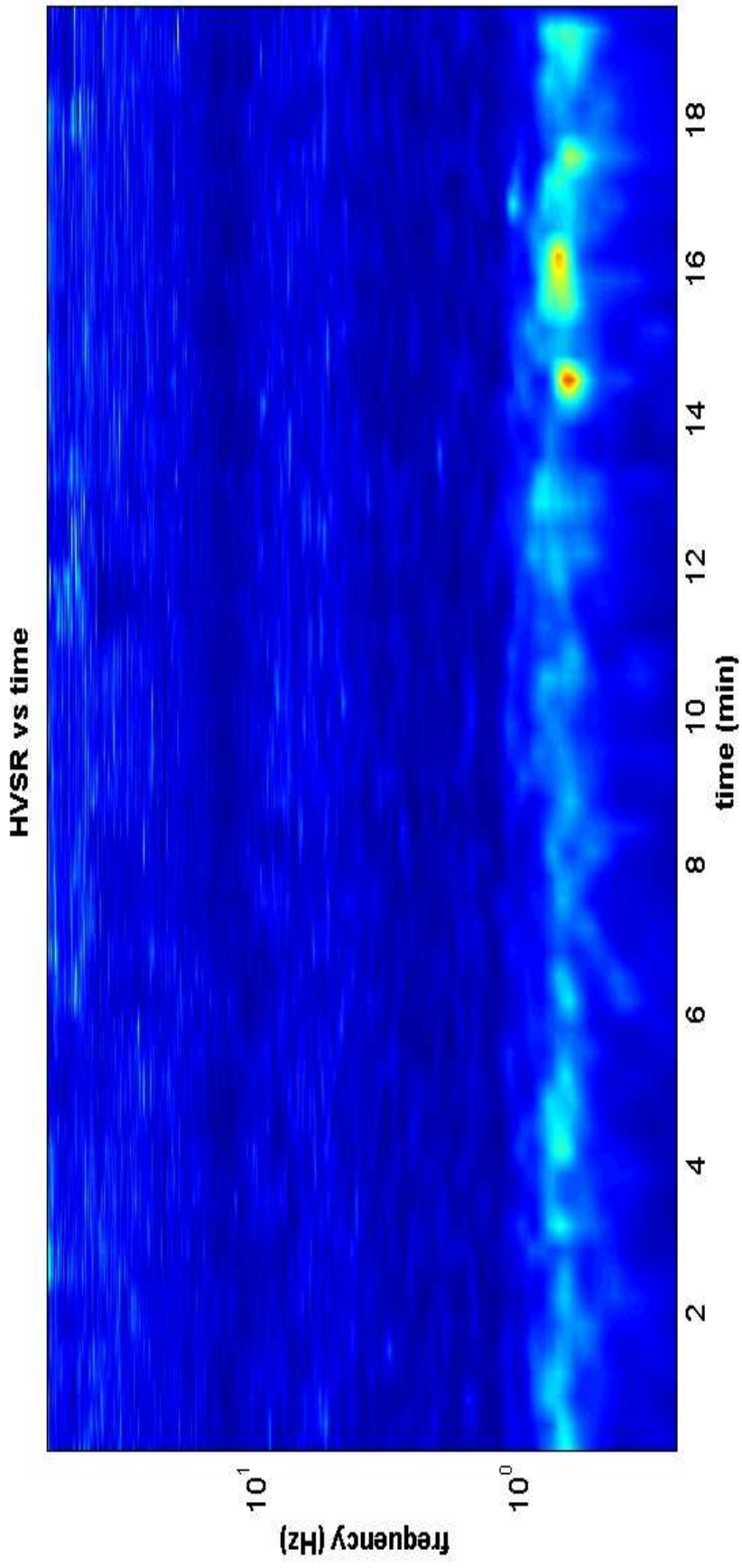
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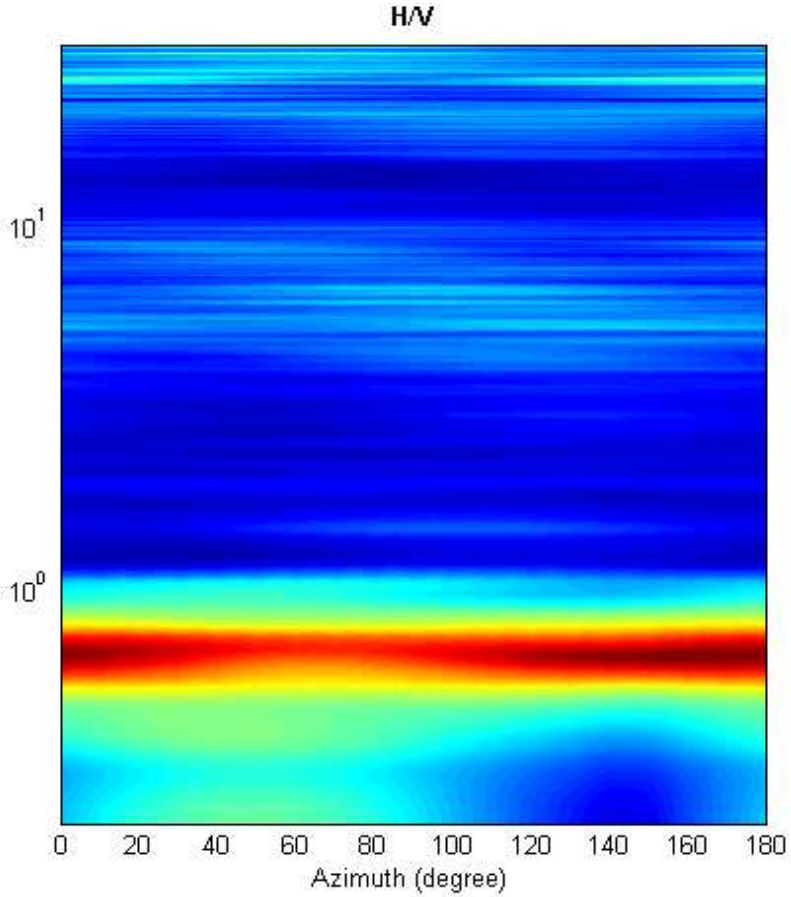
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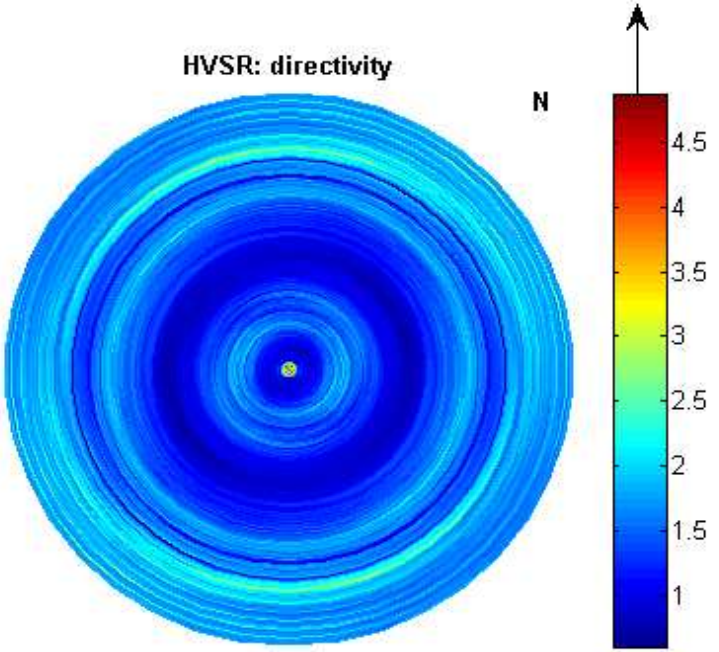
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