

REPORT PROVA H/V

Stazione	27
WGS84 N	1703607,1
WGS84 E	4860117,7
Strumentazione	Sara SR04S3 4,5 Hz
Frequenza campionamento	100 Hz
Durata registrazione	45 min
Terreno di misura	Terreno naturale
Orientamento	0° N
Condizioni meteo	Sereno, non ventoso



Lunghezza finestre	20 sec
Tipo di lisciamiento	Triangolare cost.
Ampiezza lisciamiento	10 %
Intervallo di frequenza (Hz)	0,5 – 20,0
Picco H/V (Hz)	8,0
CLASSE DI QUALITA'	B

Horizontal-to-Vertical Spectral Ratio

Dataset: 27_102MT_20120801_114233.SAF

Sampling frequency (Hz): 100

Window length (sec): 20

Length of analysed temporal sequence (min): 42.4

Tapering (%): 10

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

Peak frequency (Hz): 8.0 (± 3.1)

Peak HVSR value: 4.1 (± 0.7)

=== Criteria for a reliable H/V curve ===

#1. [$f_0 > 10/Lw$]: 8.0 > 0.5 (OK)

#2. [$nc > 200$]: 40312 > 200 (OK)

#3. [$f_0 > 0.5\text{Hz}$; $\sigma_A(f) < 2$ for $0.5f_0 < f < 2f_0$] (OK)

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

#1. [exists f_- in the range [$f_0/4, f_0$] | $AH/V(f_-) < A_0/2$]: yes, at frequency 6.5Hz (OK)

#2. [exists f_+ in the range [$f_0, 4f_0$] | $AH/V(f_+) < A_0/2$]: yes, at frequency 13.8Hz (OK)

#3. [$A_0 > 2$]: 4.1 > 2 (OK)

#4. [$f_{\text{peak}}[A_h/v(f) \pm \sigma_A(f)] = f_0 \pm 5\%$]: (OK)

#5. [$\sigma_{\text{maf}} < \epsilon(f_0)$]: 3.145 > 0.398 (NO)

#6. [$\sigma_A(f_0) < \theta(f_0)$]: 0.753 < 1.58 (OK)

show data reset

step#1 (optional) - decimate
128Hz new frequency resample

step#2 - H/V computation
remove events clean axes
20 window length (s)
10 tapering (%)
10% spectral smoothing (triangular window)
☐ show particle motion (raw data) compute

step#3a (optional) - directivity analysis
compute max freq: 32 Hz

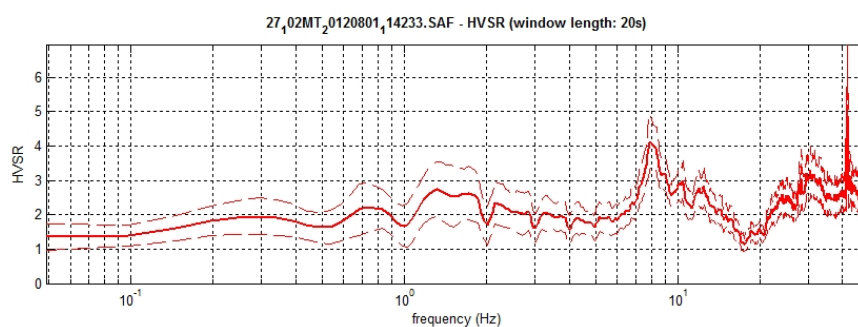
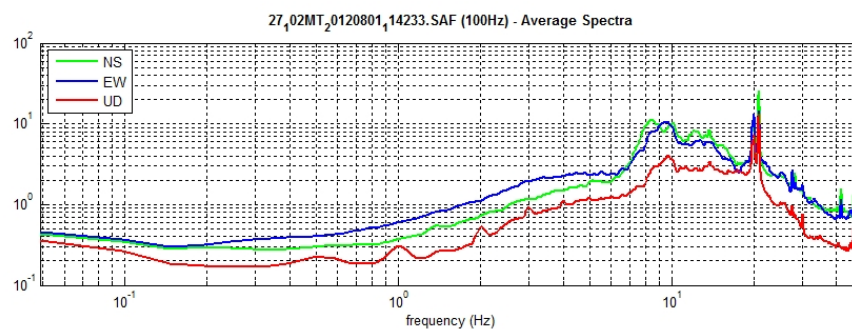
step#3b (optional) - directivity over time
directivity in time time step: 60 s

save - option#1: save HVSR as it is
Save H/V from 0.3 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)
☐ average Vs (m/s) (from surface to bedrock)
☐ depth of the bedrock (m) compute

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HVSR vs time

