DATA_SISMA, FUGAZZOLO HVSR 3

Instrument: TEP-0059/01-10
Start recording: 20/07/12 09:19:43   End recording: 20/07/12 09:29:44
Channel labels: NORTH SOUTH;   EAST WEST ;   UP   DOWN
GPS data not available

Trace length: 0h10'00''.   Analyzed 53% trace (manual window selection)
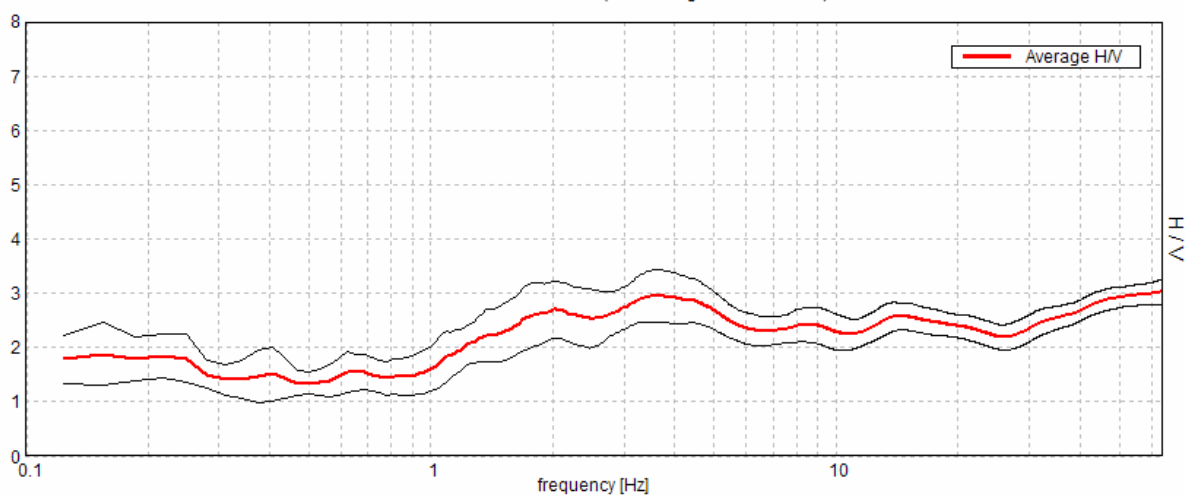Sampling frequency: 128 Hz
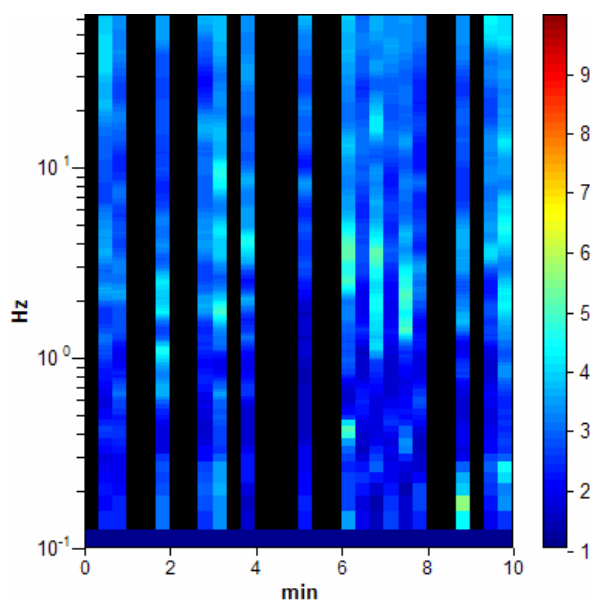Window size: 20 s
Smoothing window: Triangular window
Smoothing: 20%

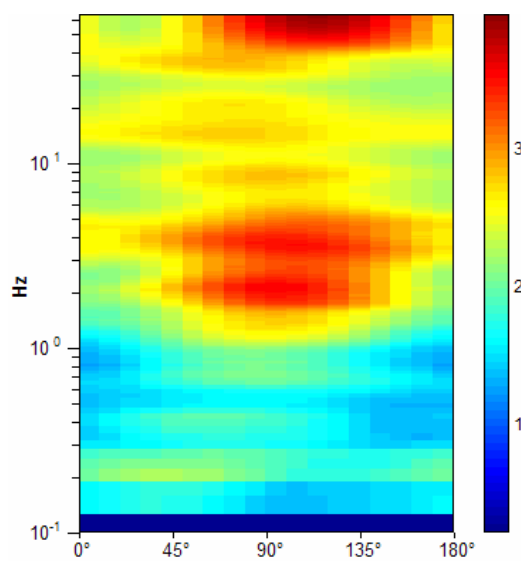### HORIZONTAL TO VERTICAL SPECTRAL RATIO
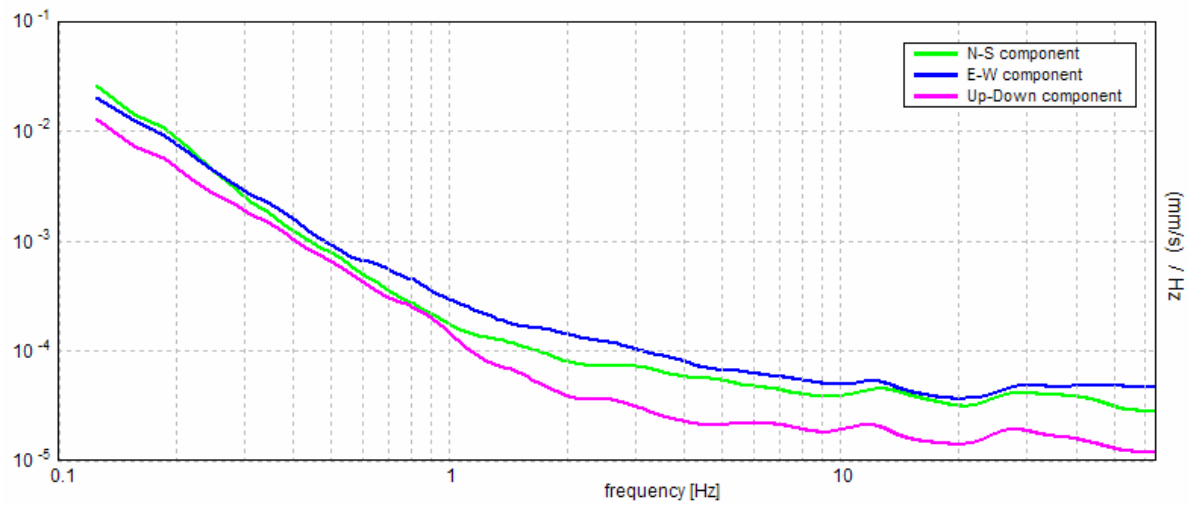
Max. H/V at 63.97 ± 19.3 Hz (in the range 0.0 - 64.0 Hz).
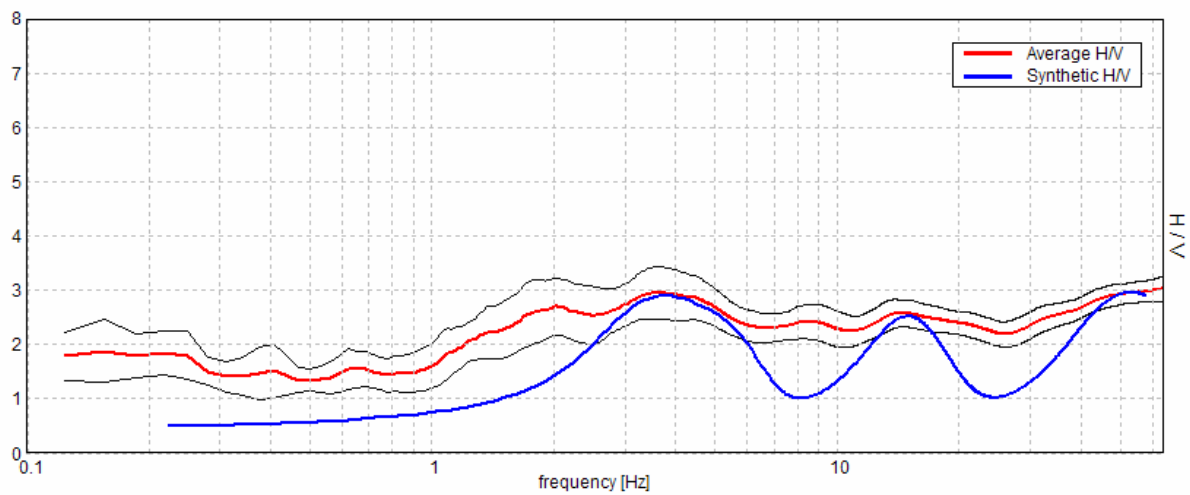

H/V TIME HISTORY

DIRECTIONAL H/V

SINGLE COMPONENT SPECTRA

EXPERIMENTAL VS. SYNTHETIC H/V

Max. H/V at 63.97 ± 19.3 Hz (in the range 0.0 - 64.0 Hz).

Depth at the bottom of the layer [m]	Thickness [m]	Vs [m/s]	Poisson ratio
0.25	0.25	80	0.35
0.45	0.20	120	0.35
1.25	0.80	200	0.35
4.55	3.30	270	0.35
7.35	2.80	490	0.35
10.35	3.00	500	0.35
27.35	17.00	520	0.35
82.35	55.00	995	0.34
inf.	inf.	1400	0.35

Vs(0.0-30.0)=441m/s

[According to the Sesame, 2005 guidelines. **Please read carefully the** *Grilla* **manual before interpreting the following tables**.]

Max. H/V at 63.97 ± 19.3 Hz (in the range 0.0 - 64.0 Hz).

Criteria for a reliable HVSR curve
[All 3 should be fulfilled]

$f_0 > 10 / L_w$	63.97 > 0.50	**OK**	
$n_c(f_0) > 200$	20470.0 > 200	**OK**	
$\sigma_A(f) < 2$ for $0.5f_0 < f < 2f_0$ if $f_0 > 0.5$Hz $\sigma_A(f) < 3$ for $0.5f_0 < f < 2f_0$ if $f_0 < 0.5$Hz	Exceeded 0 out of 1026 times	**OK**	

Criteria for a clear HVSR peak
[At least 5 out of 6 should be fulfilled]

Exists f^- in $[f_0/4, f_0]$ | $A_{H/V}(f^-) < A_0 / 2$			**NO**
Exists f^+ in $[f_0, 4f_0]$ | $A_{H/V}(f^+) < A_0 / 2$			**NO**
$A_0 > 2$	3.02 > 2	**OK**	
$f_{peak}[A_{H/V}(f) \pm \sigma_A(f)] = f_0 \pm 5\%$	|0.13705| < 0.05		**NO**
$\sigma_f < \varepsilon(f_0)$	8.76684 < 3.19844		**NO**
$\sigma_A(f_0) < \theta(f_0)$	0.1065 < 1.58	**OK**	

L_w	window length
n_w	number of windows used in the analysis
$n_c = L_w n_w f_0$	number of significant cycles
f	current frequency
f_0	H/V peak frequency
σ_f	standard deviation of H/V peak frequency
$\varepsilon(f_0)$	threshold value for the stability condition $\sigma_f < \varepsilon(f_0)$
A_0	H/V peak amplitude at frequency f_0
$A_{H/V}(f)$	H/V curve amplitude at frequency f
f^-	frequency between $f_0/4$ and f_0 for which $A_{H/V}(f^-) < A_0/2$
f^+	frequency between f_0 and $4f_0$ for which $A_{H/V}(f^+) < A_0/2$
$\sigma_A(f)$	standard deviation of $A_{H/V}(f)$, $\sigma_A(f)$ is the factor by which the mean $A_{H/V}(f)$ curve should be multiplied or divided
$\sigma_{logH/V}(f)$	standard deviation of log $A_{H/V}(f)$ curve
$\theta(f_0)$	threshold value for the stability condition $\sigma_A(f) < \theta(f_0)$

Threshold values for σ_f and $\sigma_A(f_0)$					
Freq.range [Hz]	< 0.2	0.2 – 0.5	0.5 – 1.0	1.0 – 2.0	> 2.0
$\varepsilon(f_0)$ [Hz]	0.25 f_0	0.2 f_0	0.15 f_0	0.10 f_0	0.05 f_0
$\theta(f_0)$ for $\sigma_A(f_0)$	3.0	2.5	2.0	1.78	1.58
Log $\theta(f_0)$ for $\sigma_{logH/V}(f_0)$	0.48	0.40	0.30	0.25	0.20