

## STATION INFORMATION

*Station code:* 3

*Model:* Geobox

*Sensor:* SARA SS45 (external 4.5 Hz sensors)

*Notes:* -

## PLACE INFORMATION

*Place ID:* Cogeneratore

*Address:* Canneto - Monteverdi

*Latitude:* 43.192091

*Longitude:* 10.762702

*Coordinate system:* WGS84

*Elevation:* 4100 m s.l.m.

*Weather:* sun

*Notes:* HV3

## PHOTOGRAPHIC REFERENCES



## SIGNAL AND WINDOWING

*Sampling frequency:* 100 Hz

*Recording start time:* 2018/02/01 17:19:14

*Recording length:* 22.02 min

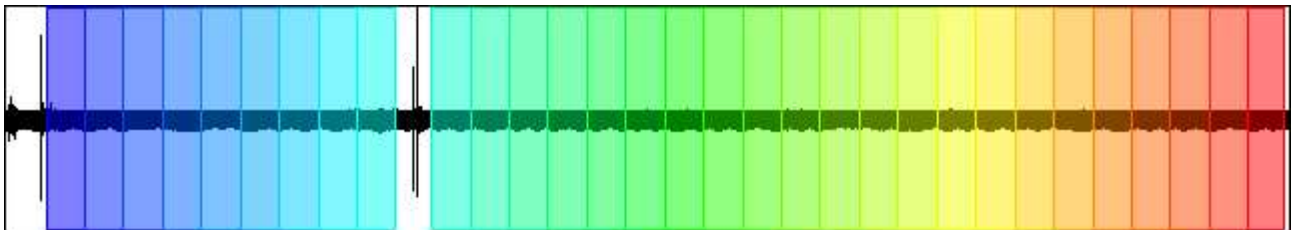
*Windows count:* 31

*Average windows length:* 39.9

*Signal coverage:* 93.64%

65349 Counts

**CHANNEL #1 [V]**



-47497 Counts

37034 Counts

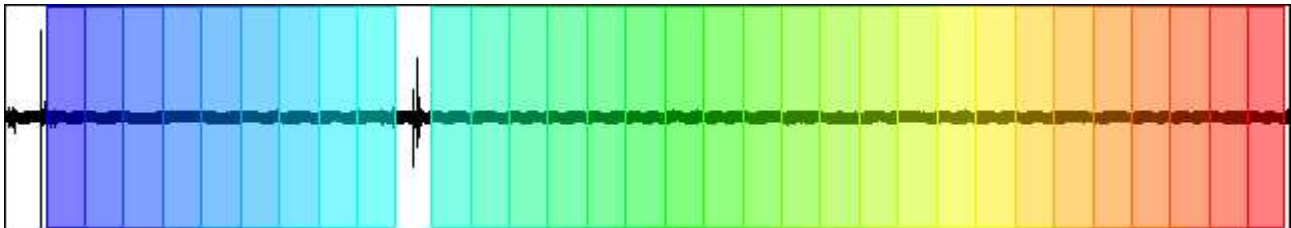
**CHANNEL #2 [N]**



-33767 Counts

50628 Counts

**CHANNEL #3 [E]**



-64857 Counts

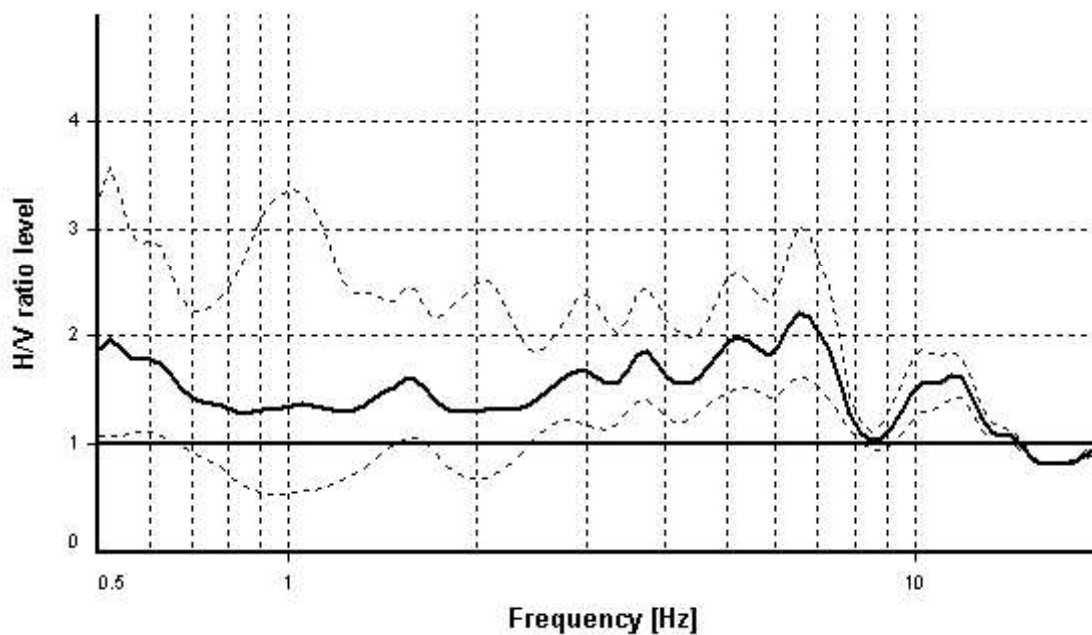
## HVSR ANALYSIS

Tapering: Disabled

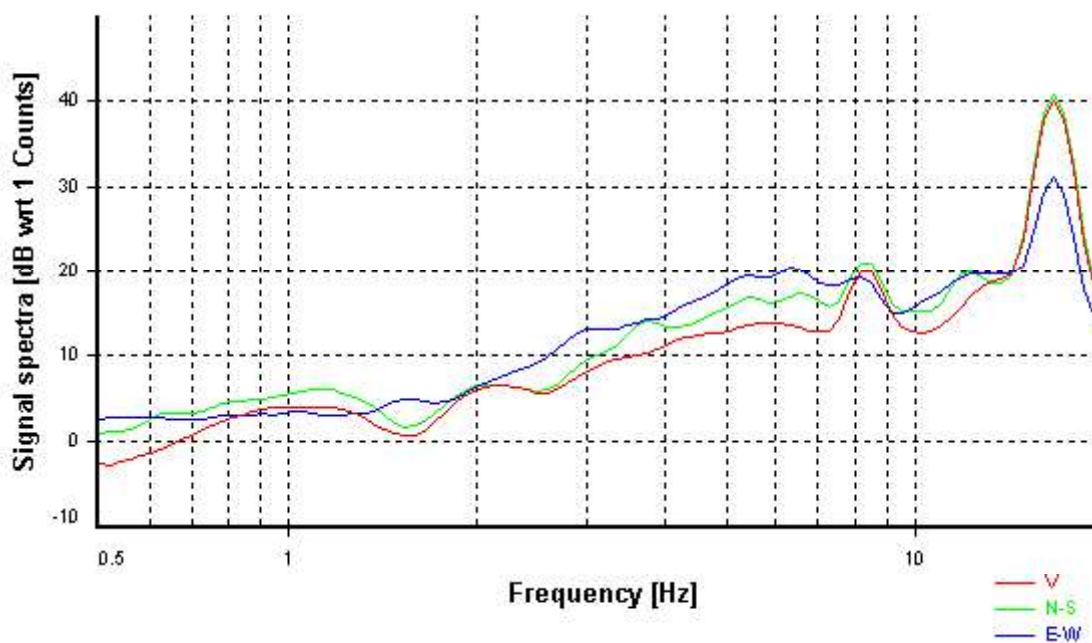
Smoothing: Konno-Ohmachi (Bandwidth coefficient = 40)

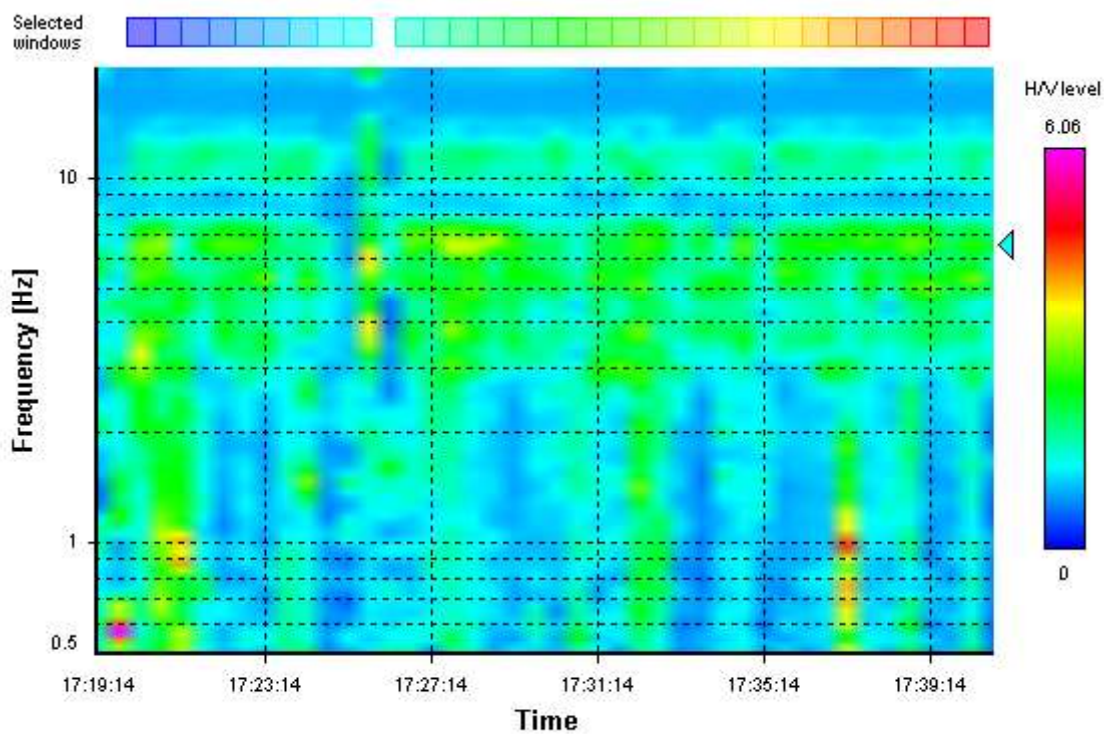
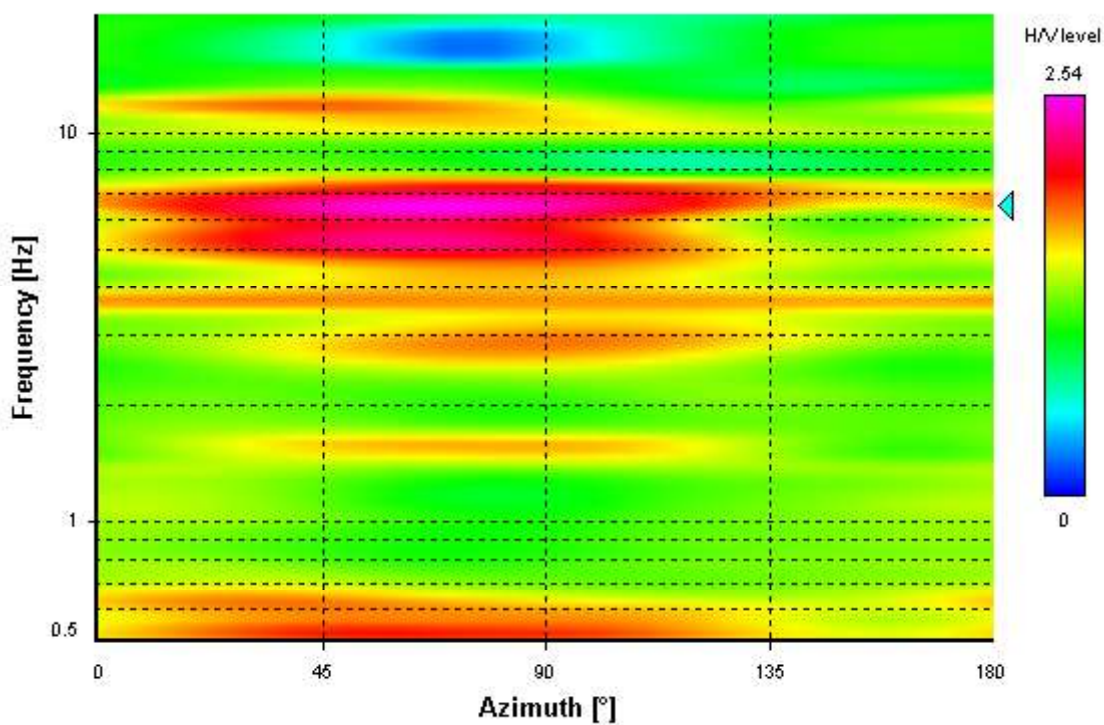
Instrumental correction: Disabled

### HVSR average



### Signal spectra average



**HVSR time-frequency analysis (30 seconds windows)****HVSR directional analysis**



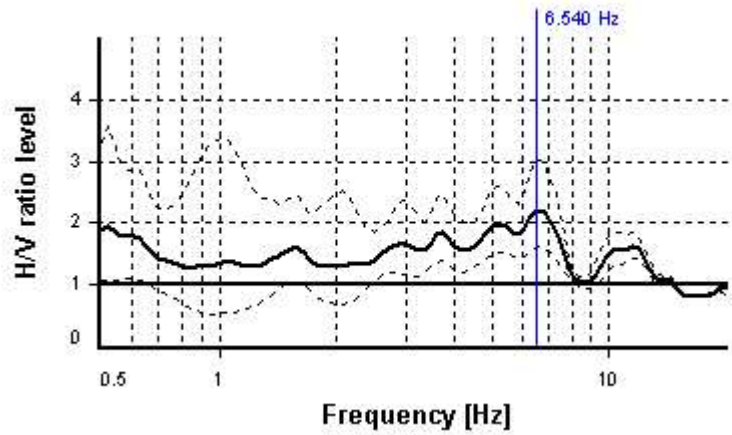
## SESAME CRITERIA

**Selected  $f_0$  frequency**

**6.540 Hz**

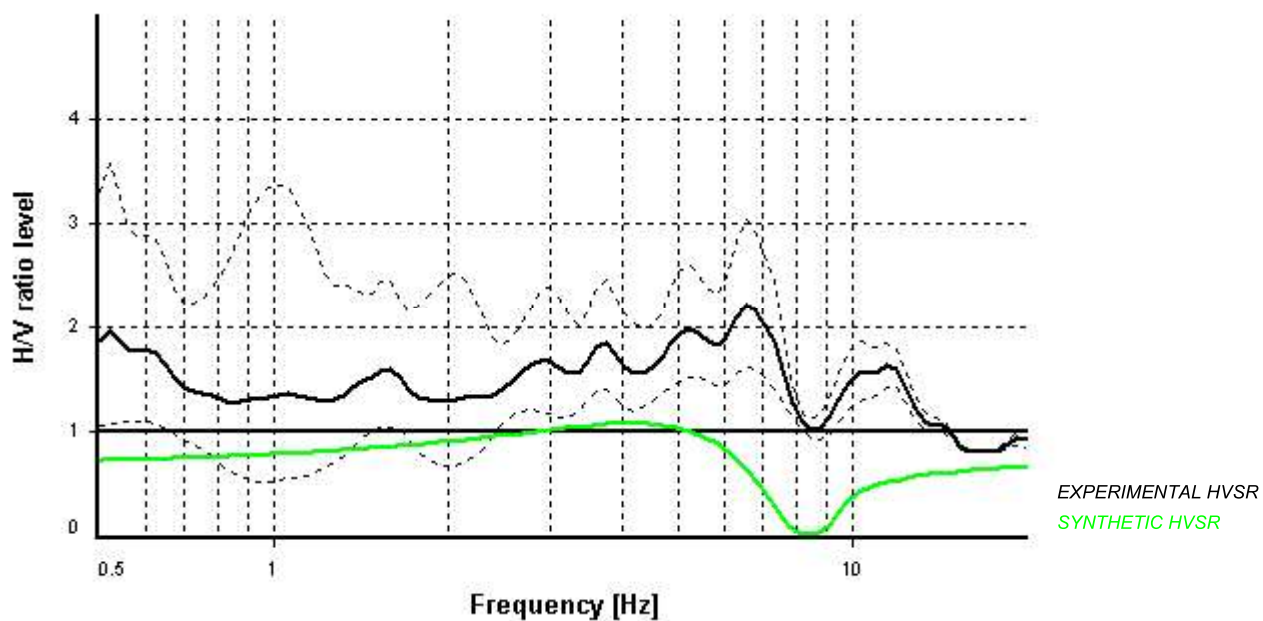
**$A_0$  amplitude = 2.219**

**Average  $f_0 = 6.190 \pm 0.899$**

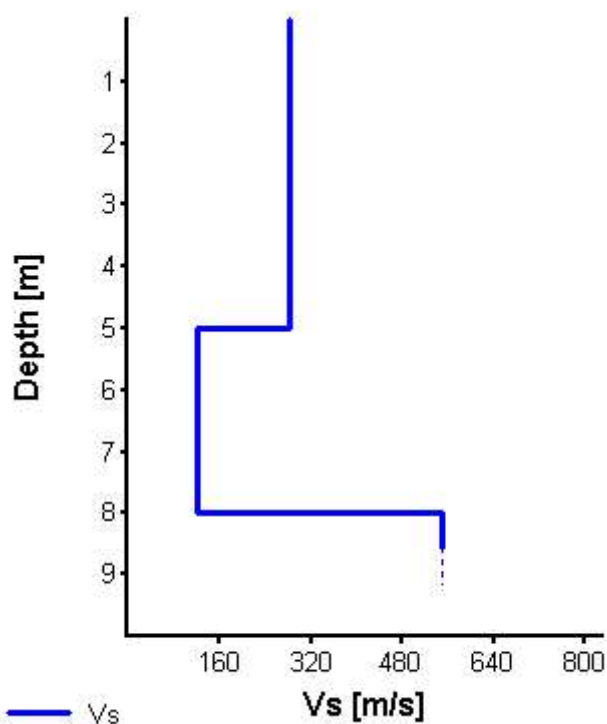


HVSR curve reliability criteria		
$f_0 > 10 / L_w$	31 valid windows (length > 1.53 s) out of 31	OK
$n_c(f_0) > 200$	8089.08 > 200	OK
$\sigma_A(f) < 2$ for $0.5f_0 < f < 2f_0$	Exceeded 0 times in 37	OK
HVSR peak clarity criteria		
$\exists f \text{ in } [f_0/4, f_0] \mid A_{H/V}(f) < A_0/2$	0 Hz	NO
$\exists f^+ \text{ in } [f_0, 4f_0] \mid A_{H/V}(f^+) < A_0/2$	8.17809 Hz	OK
$A_0 > 2$	2.22 > 2	OK
$f_{\text{peak}}[A_{H/V}(f) \pm \sigma_A(f)] = f_0 \pm 5\%$	0% <= 5%	OK
$\sigma_f < \varepsilon(f_0)$	0.89919 >= 0.32698	NO
$\sigma_A(f_0) < \theta(f_0)$	1.36948 < 1.58	OK
Overall criteria fulfillment		NO

## Synthetic HVSR modelling



H [m]	D [m]	Vp [m/s]	Vs [m/s]	$\rho$ [kg/m <sup>3</sup> ]
5	5	600	280	1700
3	8	500	120	1700
-	> 8	1000	550	1800



**Vs 30 = 362 m/s (Offset = 0 m)**