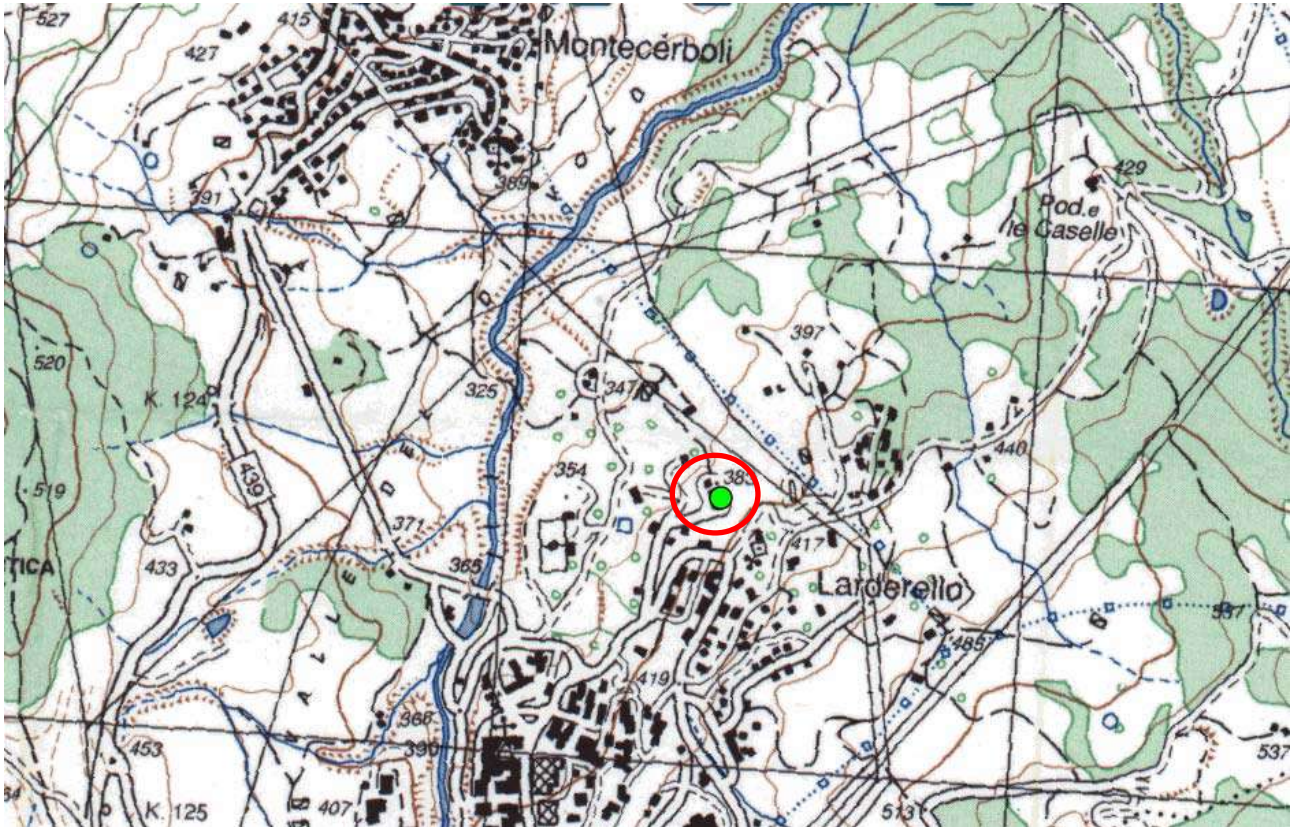




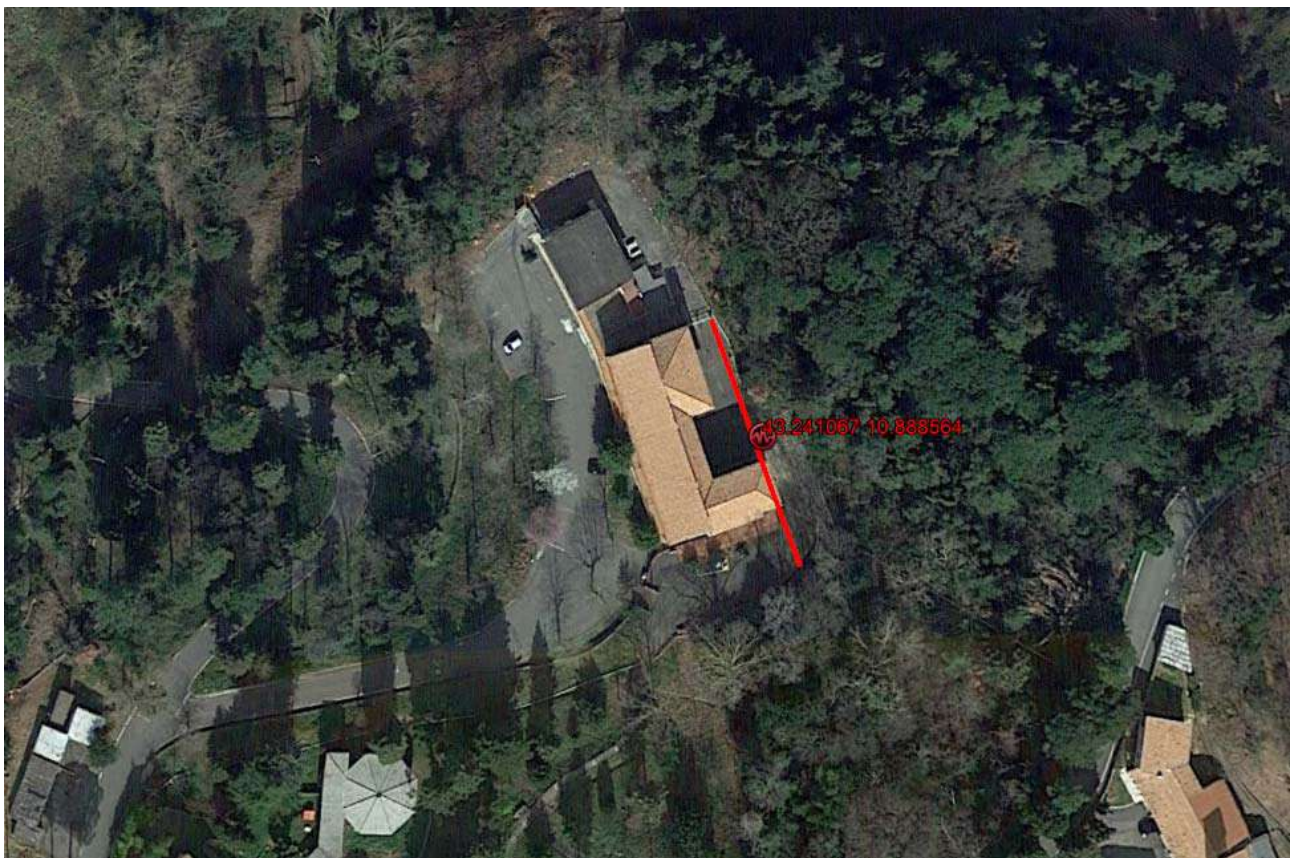
## Appendice 1: report registrazioni HVSR

*(Horizontal to Vertical Spectral Ratio)*

P404



Misura 3 – HVSR - Riferimento cartografico ISPRA - IGM scala 1:25.000







## PHOTOGRAPHIC REFERENCES HVSR3





## SIGNAL AND WINDOWING

Sampling frequency: 200 Hz

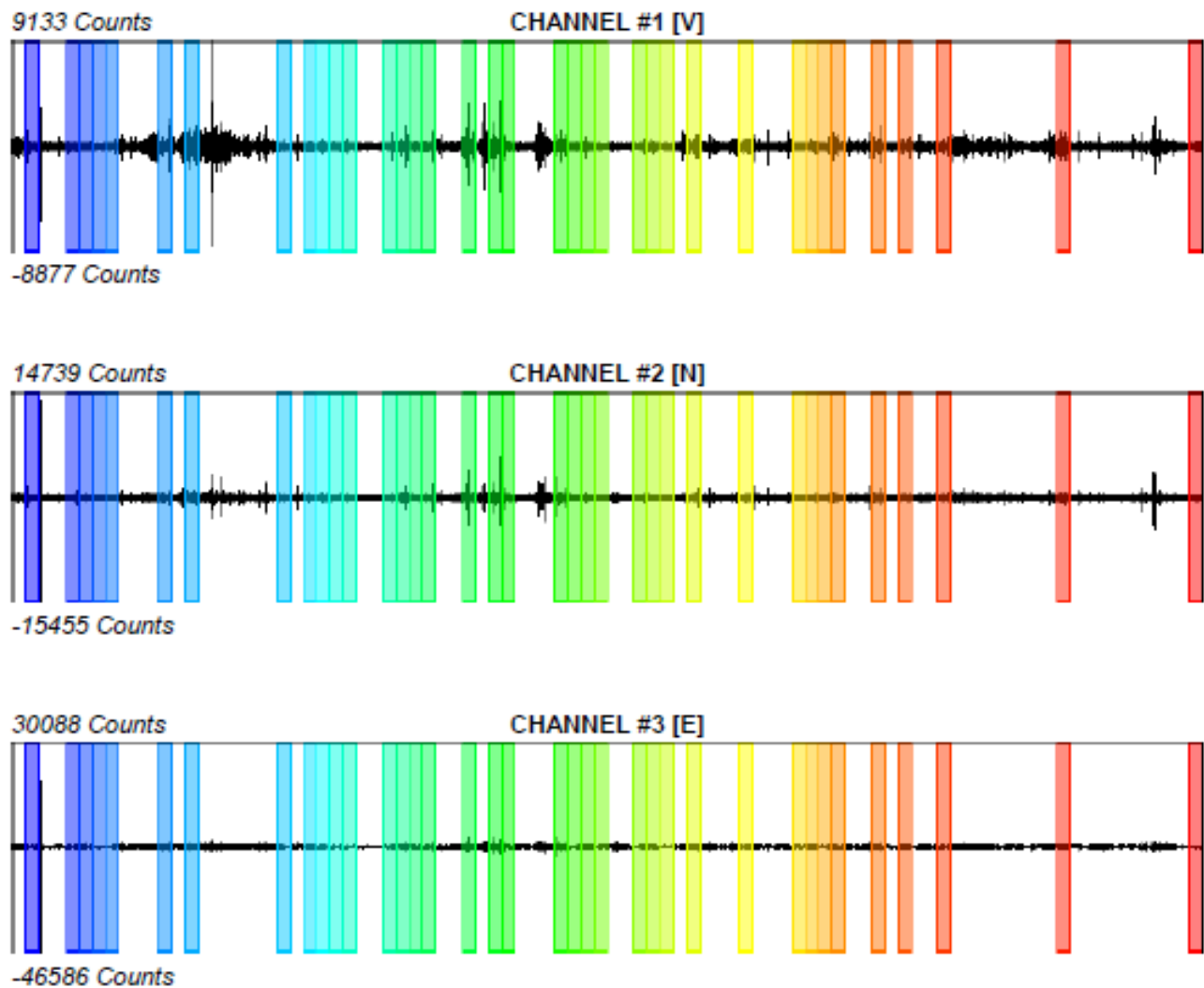
Recording start time: 2019/10/14 12:55:23

Recording length: 30 min

Windows count: 37

Average windows length: 20

Signal coverage: 41.11%





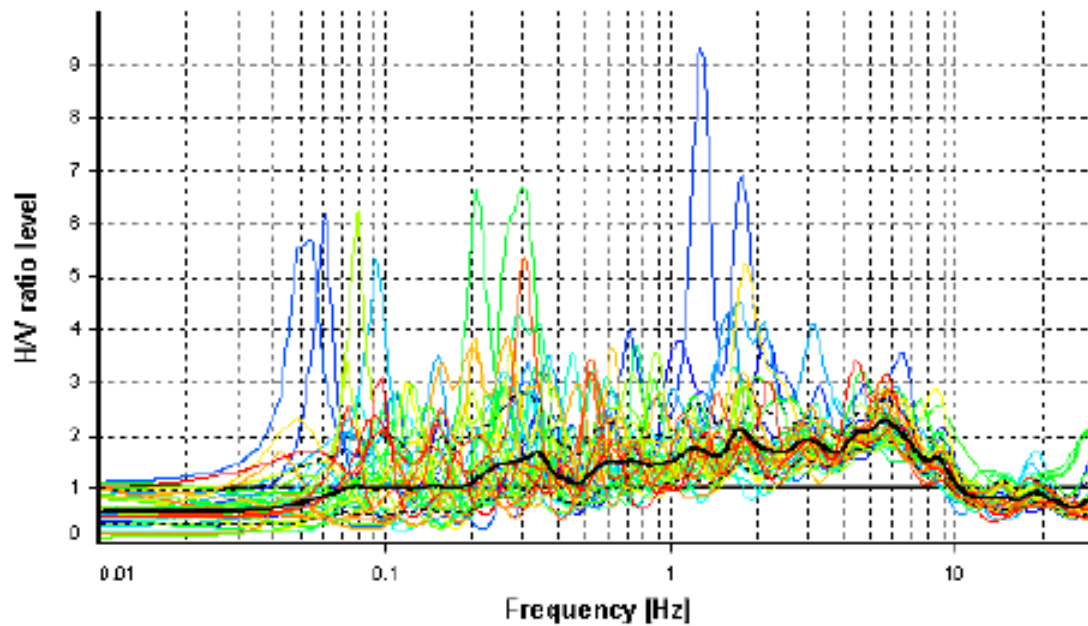
## HVSR ANALYSIS

*Tapering:* Enabled (Bandwidth = 5%)

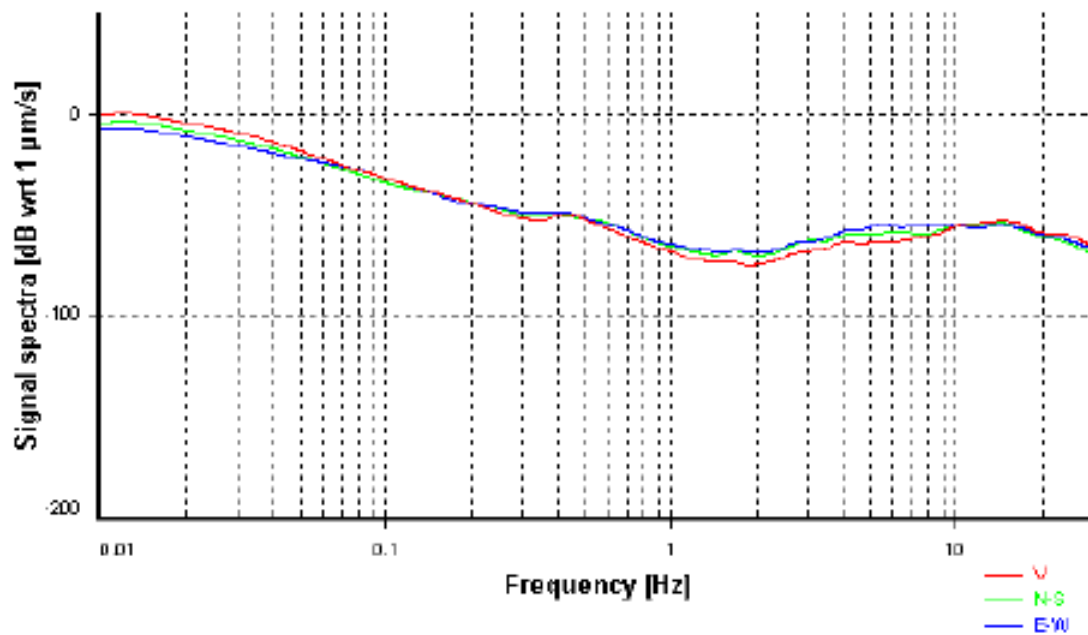
*Smoothing:* Konno-Ohmachi (Bandwidth coefficient = 30)

*Instrumental correction:* Enabled (Water level = 0.01 Hz)

### HVSR average



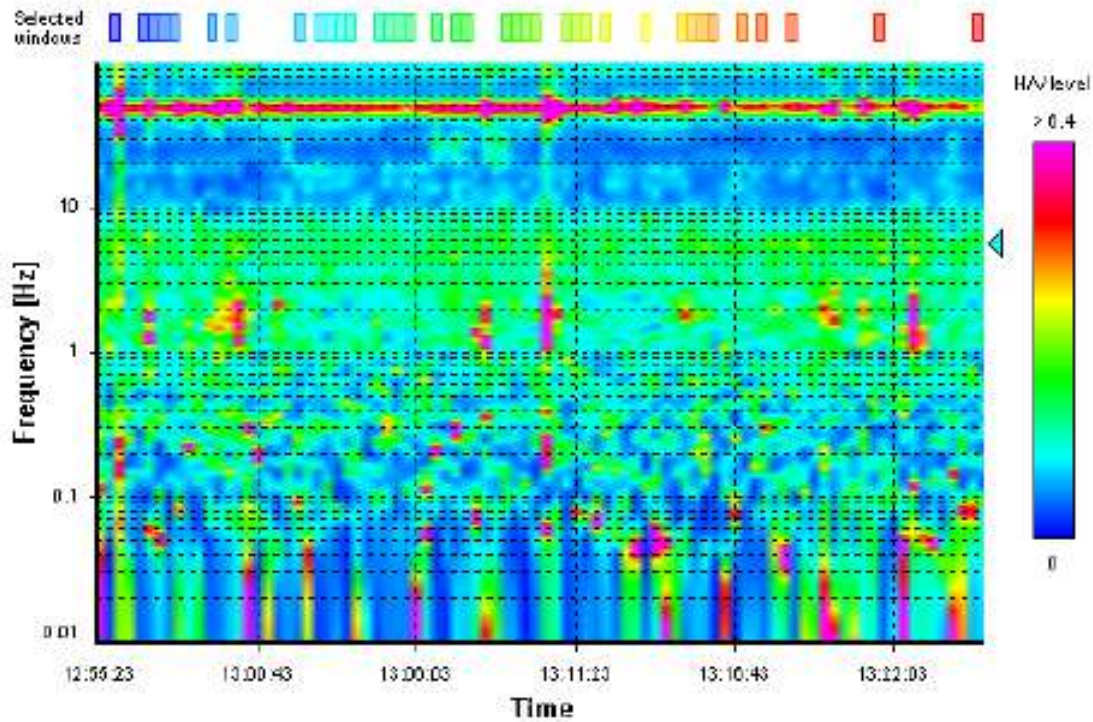
### Signal spectra average



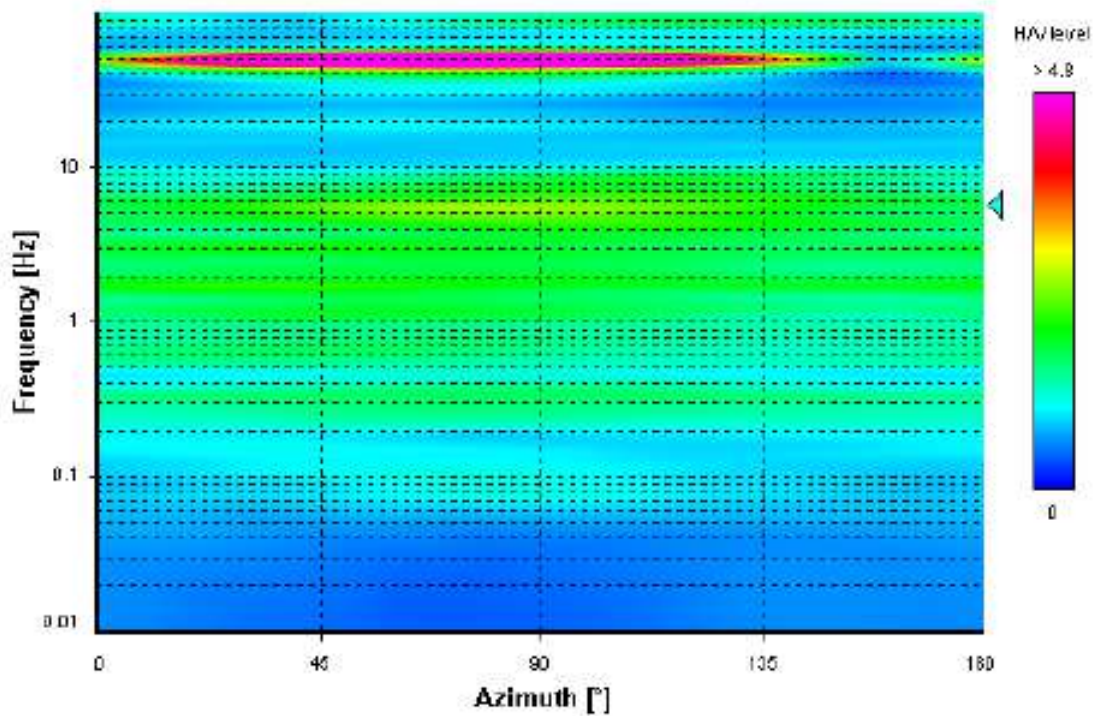




### HVSR time-frequency analysis (20 seconds windows)



### HVSR directional analysis





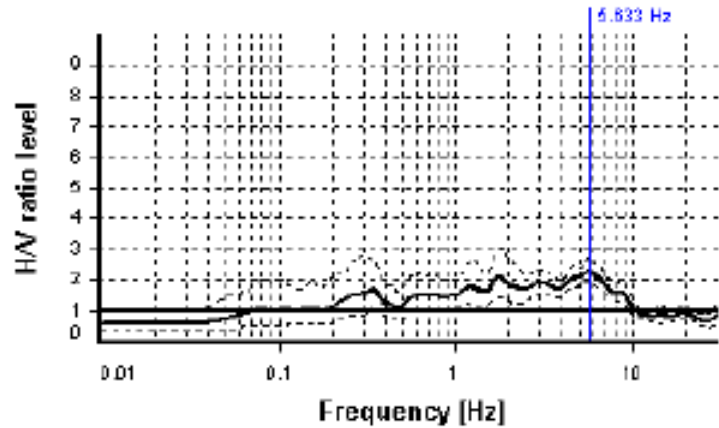
## SESAME CRITERIA

**Selected  $f_0$  frequency**

**5.633 Hz**

**$A_0$  amplitude = 2.289**

**Average  $f_0 = 5.701 \pm 0.893$**



HVSR curve reliability criteria		
$f_0 > 10 / L_w$	37 valid windows (length > 1.78 s) out of 37	OK
$n_c(f_0) > 200$	4168.53 > 200	OK
$\sigma_A(f) < 2$ for $0.5f_0 < f < 2f_0$	Exceeded 0 times in 151	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
$\exists f^+ \text{ in } [f_0, 4f_0] \mid A_{H/V}(f^+) < A_0/2$	9.88542 Hz	OK
$A_0 > 2$	2.29 > 2	OK
$f_{\text{peak}}[A_{H/V}(f) \pm \sigma_A(f)] = f_0 \pm 5\%$	1.83% <= 5%	OK
$\sigma_f < \varepsilon(f_0)$	0.8929 >= 0.28166	NO
$\sigma_A(f_0) < \theta(f_0)$	1.1845 < 1.58	OK
Overall criteria fulfillment		NO