



PROTEZIONE CIVILE
Presidenza del Consiglio dei Ministri
Dipartimento della Protezione Civile



CONFERENZA DELLE REGIONI E
DELLE PROVINCE AUTONOME

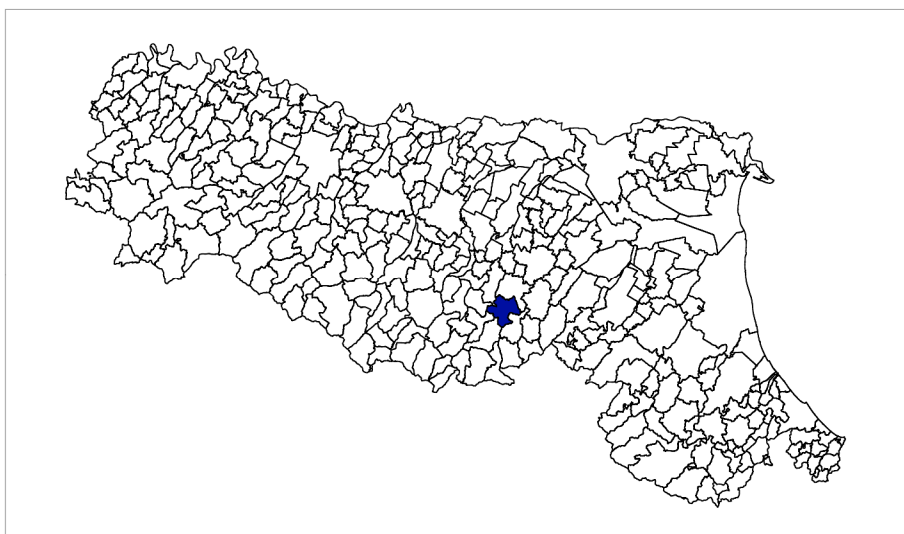
Attuazione dell'articolo 11 della legge 24 giugno 2009, n.77

MICROZONAZIONE SISMICA

Analisi geologico tecnica e microzonazione sismica del territorio di Marzabotto

Indagini geofisiche di nuova esecuzione

Regione Emilia-Romagna
Piano Strutturale Comunale in Forma Associata
dei Comuni di Marzabotto e Vergato



Regione Emilia Romagna <i>Studio realizzato con il contributo di cui all'OPCM 4007/2012.</i> <i>Coordinamento della Regione</i> <i>Emilia-Romagna – Servizio Geologico</i> Luca Martelli	Soggetto realizzatore Studio Geologico CENTROGEO Progetto: Gian Pietro Mazzetti Collaboratori: Stefano Gilli, Andrea Arbizzi, Mauro Mazzetti Elaborazioni GIS: Studio Benaglia Professionisti Associati Corrado Ugoletti	Comune di Marzabotto Sindaco: Romano Franchi Assessore all'Urbanistica: Simone Righi Ufficio di Piano Associato: Marco Teglia Carmelina Cava
 Provincia di Bologna		Data Gennaio 2016

INDAGINI GEOFISICHE REMI/MASW

STUDIO GEOLOGICO CENTROGEO

42015 Correggio (RE) - Piazza S.Quirino, 6 - tel 0522/641001 - Fax: 632162

CENTROGEO

P.zza S. Quirino, 6 - 42015 Correggio (RE)

INDAGINE MASW/Re.Mi.

R04

LOCALITA': Marzabotto (BO)

DATA: 17-10-2013

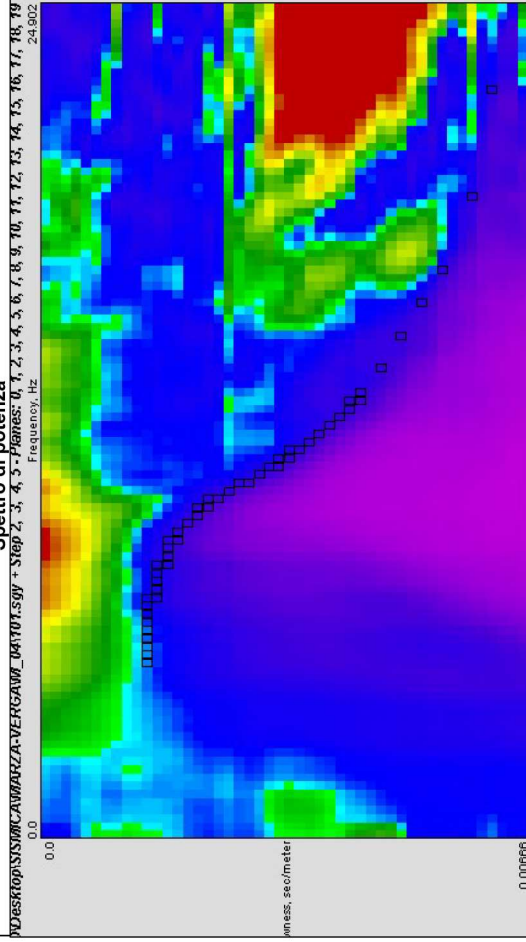
DATA: 17-10-2010	
QUOTA: 150 m. s.l.m.	
OPERATORI: Mazzetti M. -	

LOCALITA': Marzabotto (BO)	COMMITTENTE: Amm. Comunale
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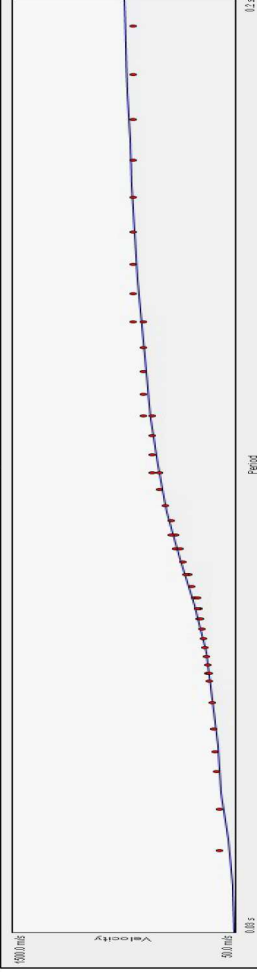
DATA: 17-10-2013	CANTIERE: Pian di Venola
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DATA: 11-10-2010	
QUOTA: 150 m. s.l.m.	
OPERATORI: Mazzetti M. - Arbizzini A.	

Spettro di potenza



Curva di dispersione



Note:

Modello interpretativo				
Strato n°	Prof. (m)		Spess. (m)	Vs (m/s)
1	0	1.5	1.5	80
2	1.5	13	11.5	360
3	13	18	5	970
4	18	INF	INF	980
5	5			
6	6			
7	7			
8	8			
9	9			
10	10			

The plot displays the profile of Vs (m/s) as a function of depth (Prof. (m)). The x-axis represents depth in meters, ranging from 0 to 50. The y-axis represents the shear wave velocity Vs in m/s, ranging from 0 to 1600. The profile is a step function, indicating constant Vs values within specific depth intervals.

Prof. (m)	Modello interpretativo profilo Vs (m/s)
0 - 1	50
1 - 13	320
13 - 17	750
17 - 19	870
19 - 50	950

CENTROGEO

P.zza S. Quirino, 6 - 42015 Correggio (RE)

INDAGINE MASW/Re.Mi.

R09

LOCALITA': Marzabotto (BO)

DATA: 17-10-2013

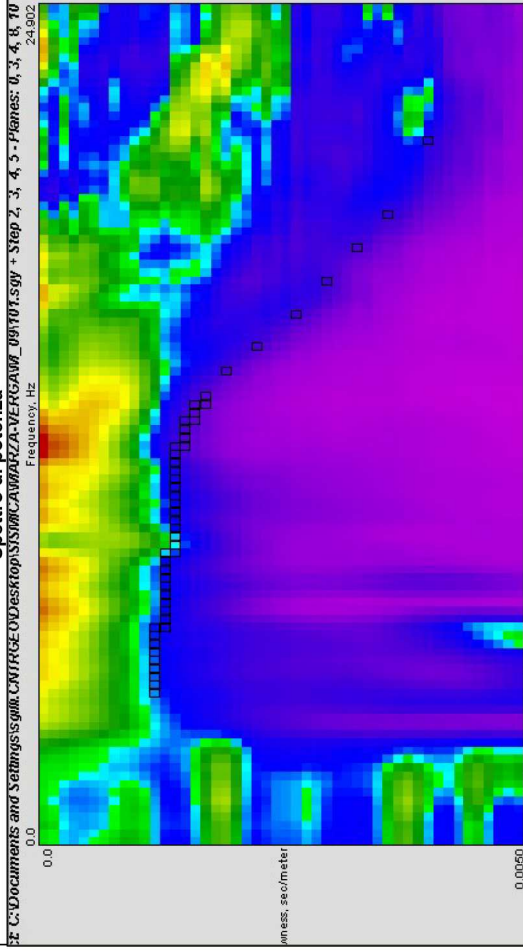
QUOTA: 110 m. s.l.m.

COMMITTENTE: Amm. Comunale

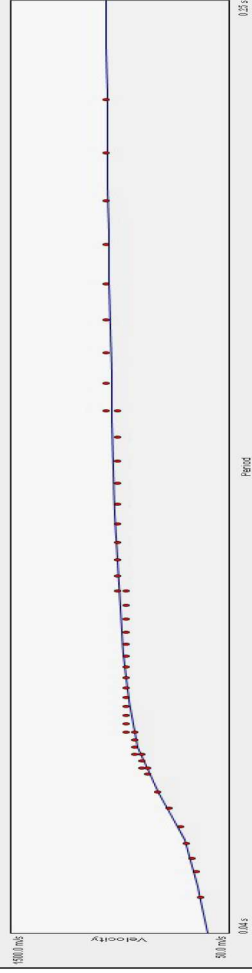
CANTIERE: Lama di Reno

OPERATORI: Mazzetti M. - Arbizzi A.

Spettro di potenza



Curva di dispersione



Note:

Modello interpretativo				
Strato n°	Prof. (m)		Spess. (m)	Vs (m/s)
1	0	1.8	1.8	110
2	1.8	4.2	2.4	370
3	4.2	12	7.8	830
4	12	27	15	890
5	27	43	16	960
6	43	INF	INF	1010
7				
8				
9				
10				

CENTROGEO

P.zza S. Quirino, 6 - 42015 Correggio (RE)

INDAGINE MASW/Re.Mi.

R13

LOCALITA': Marzabotto (BO)

DATA: 22-10-2013

DATA: 22-10-2019
QUOTA: 190 m. s.l.m.

COMMITTENTE: Amm. Comunale

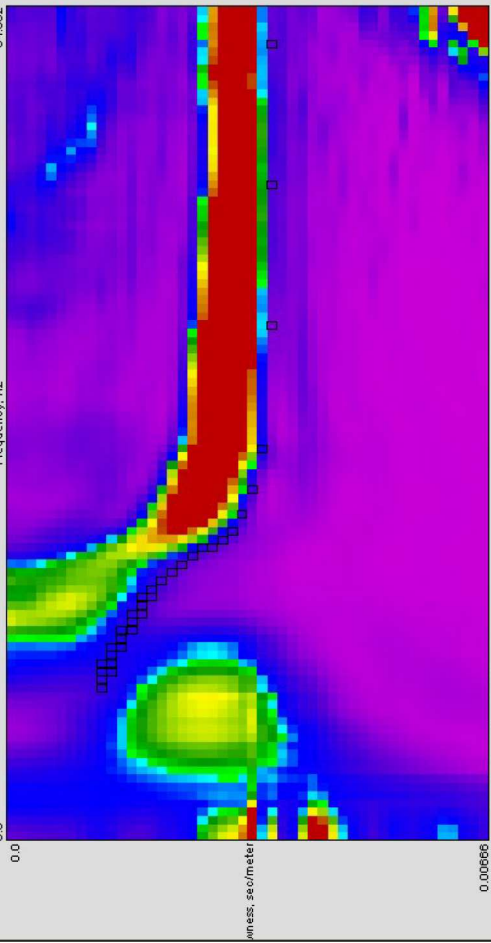
CANTIERE: Le Murazze

OPERATORI: Mazzetti M. - Arbizzi A.

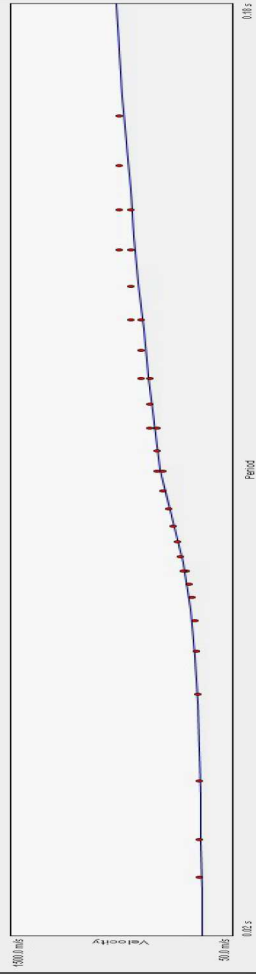
Desktop: SINMACAWARZA-VERGAWM_13101.sgv + Step 2, 3, 4, 5 - *Parameters: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19*
 Frequency, Hz
 0.0
 34.932

Spettro di potenza

Planes: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19
Frequency, Hz 34.932



Curva di dispersione

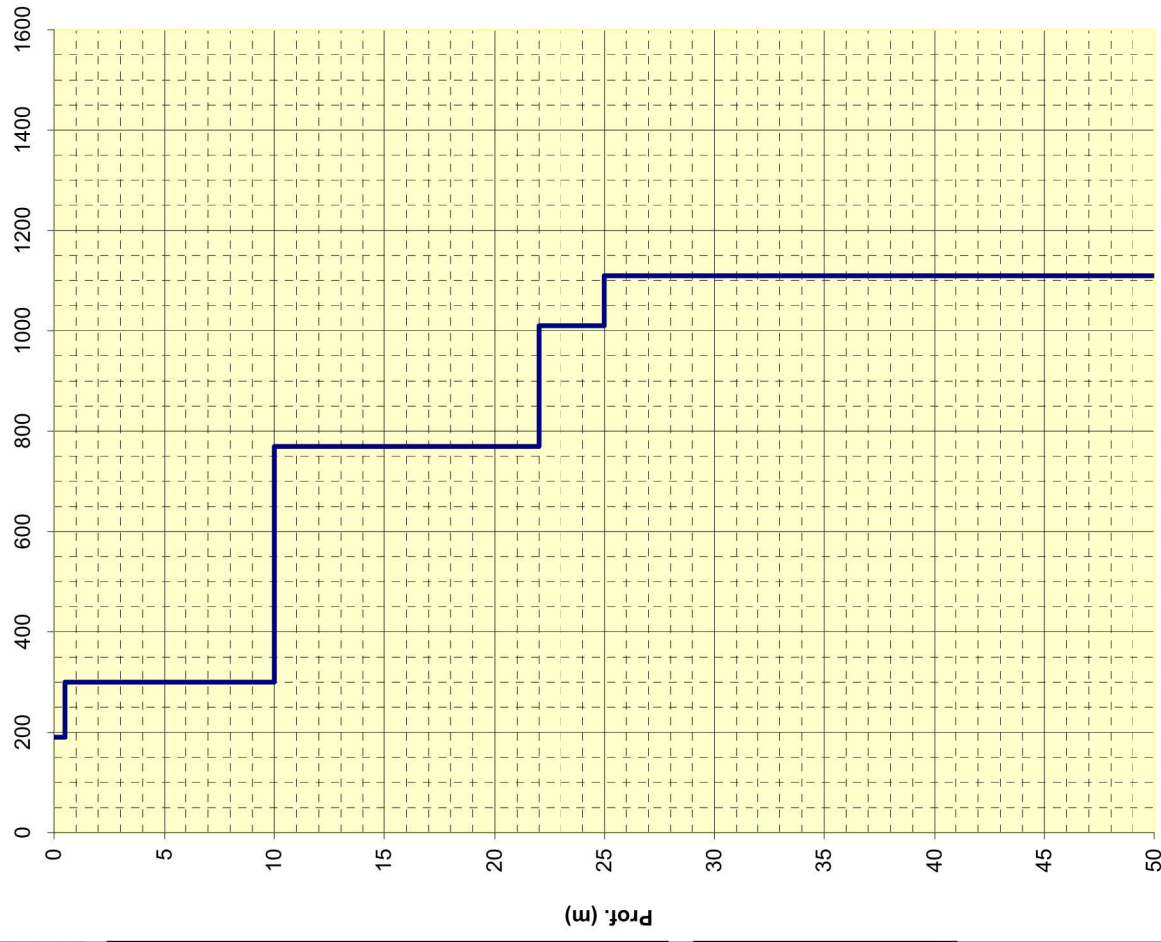


Note:

Modello interpretativo

Strato n°	Prof. (m)		Spess. (m)	Vs (m/s)
	0	0.5		
1	0.5	10	0.5	190
2	10	22	9.5	300
3	10	22	12	770
4	22	25	3	1010
5	25	INF	INF	1110
6				
7				
8				
9				
10				

Modello interpretativo

profilo V_s (m/s)

—Vs

CENTROGEO

P.zza S. Quirino, 6 - 42015 Correggio (RE)

INDAGINE MASW/Re.Mi.

R20

LOCALITA': Marzabotto (BO)

DATA: 22-10-2013

QUOTA: 140 m. s.l.m.

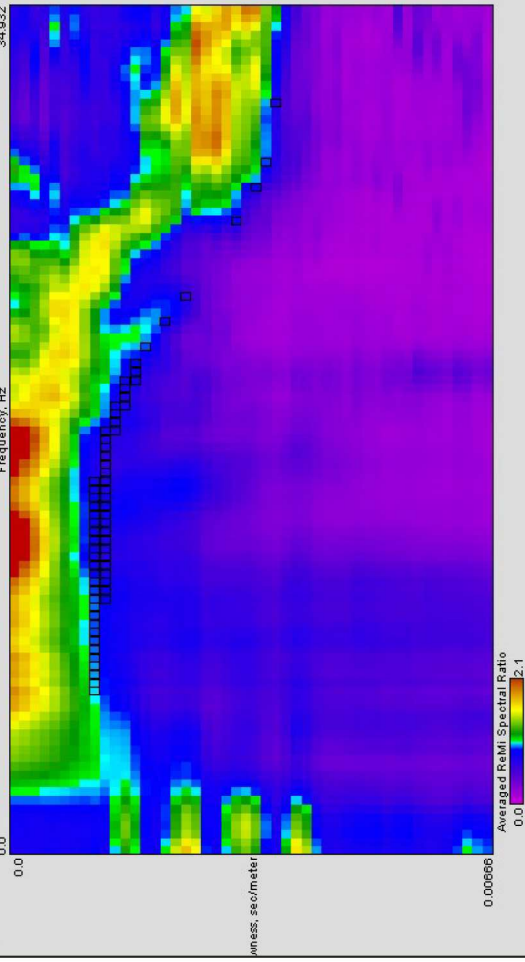
COMMITTENTE: Amm. Comunale

CANTIERE: Sirano

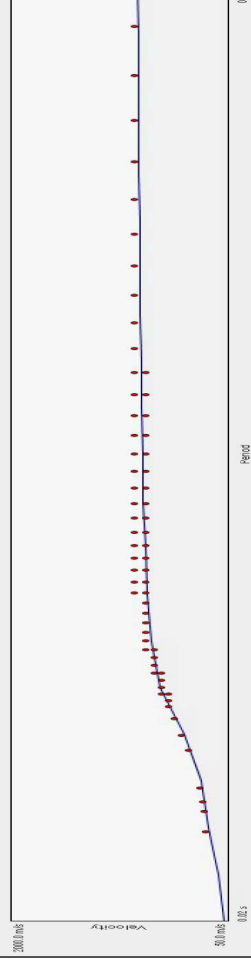
OPERATORI: Mazzetti M. - Arbizzi A.

Spettro di potenza

Frequency, Hz	34.932
0.0	34.932

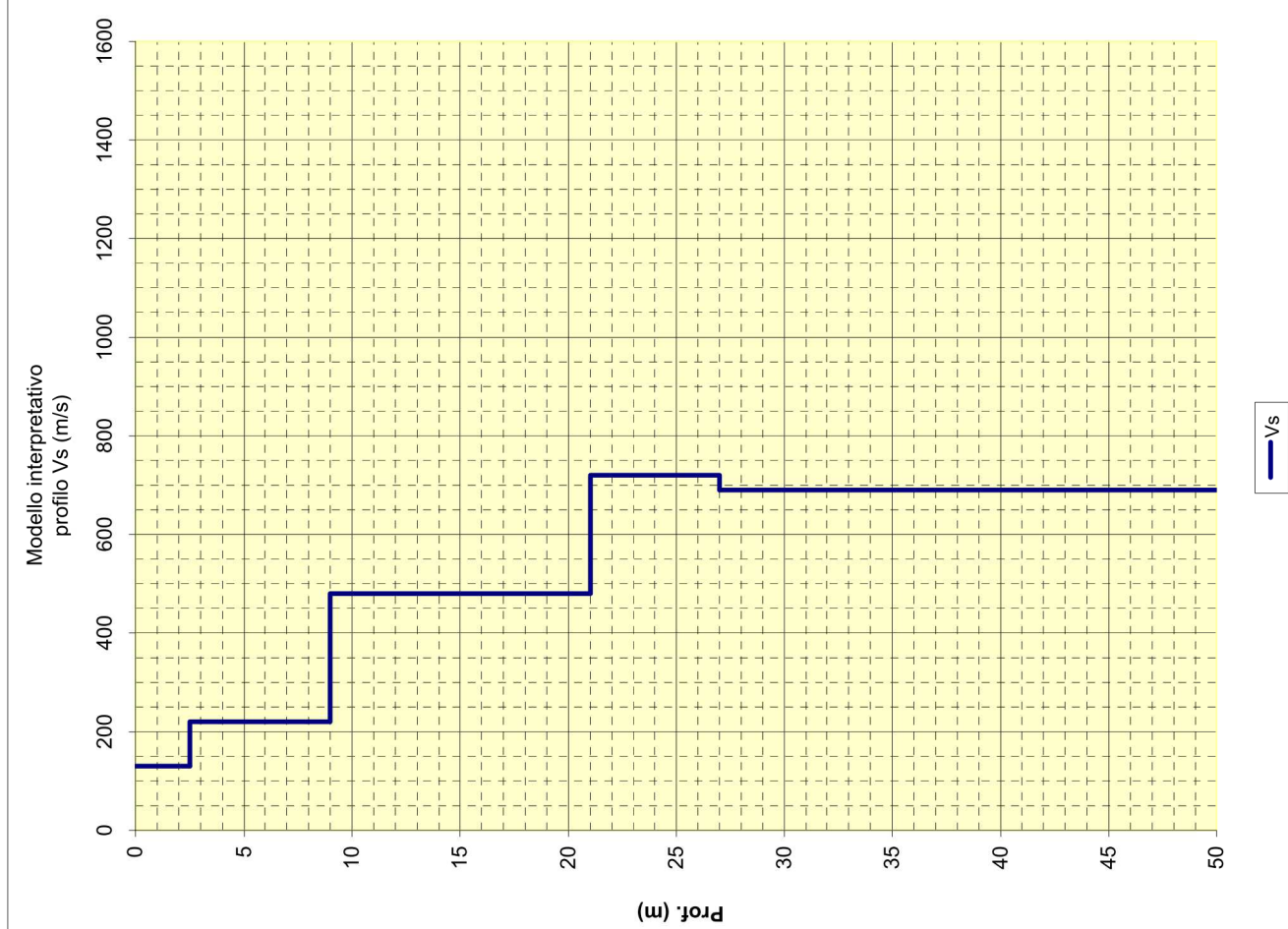


Curva di dispersione



Note:

Modello interpretativo					
Strato n°	Prof. (m)		Spess. (m)	Vs (m/s)	
1	0	1.3	1.3	110	
2	1.3	5.5	4.2	740	
3	5.5	16	10.5	870	
4	16	INF	INF	1000	
5					
6					
7					
8					
9					
10					

[illegible]

The graph displays the profile of Vs (m/s) as a function of depth (Prof. (m)). The x-axis represents depth in meters, ranging from 0 to 40. The y-axis represents the Vs profile in m/s, ranging from 0 to 1600. The profile is a step function that increases in discrete steps at specific depths.

Prof. (m)	Modello interpretativo profilo Vs (m/s)
0	220
8	300
11	480
13	640
35	660
40	680

INDAGINI GEOFISICHE HVSR

STUDIO GEOLOGICO CENTROGEO

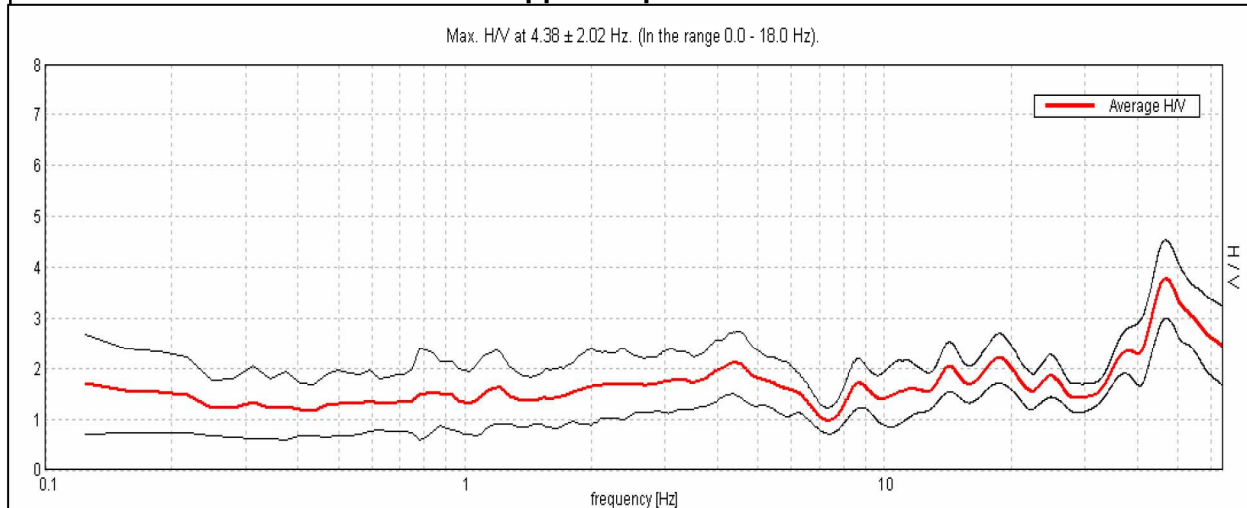
42015 Correggio (RE) - Piazza S.Quirino, 6 - tel 0522/641001 - Fax: 632162

STUDIO GEOLOGICO CENTROGEO P.zza S.Quirino, 6 - 42015 CORREGGIO	INDAGINE HVSR H02
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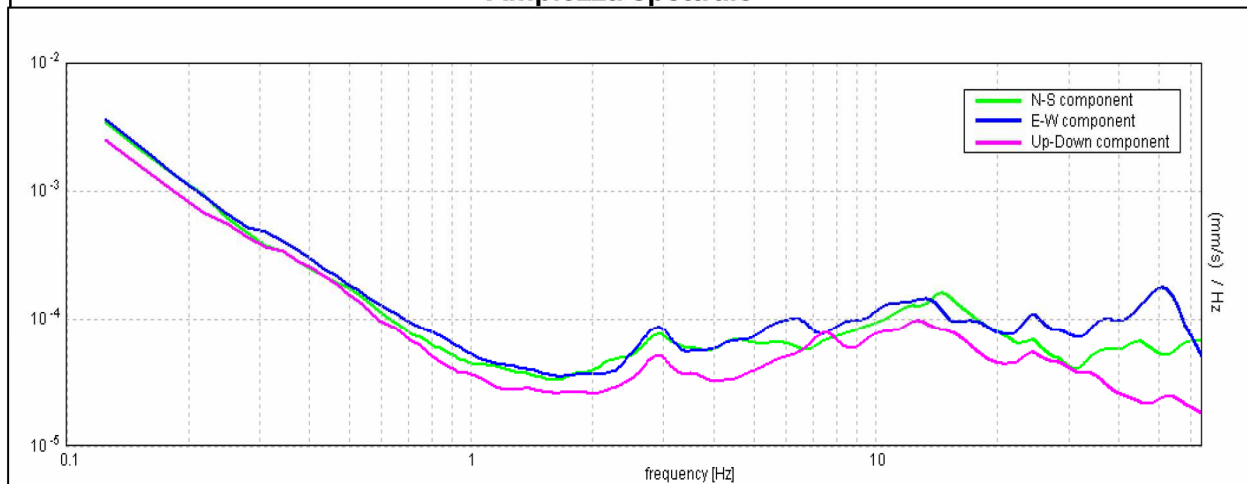
LOCALITA': Marzabotto (BO)	COMMITTENTE: Amm. Comunale
DATA: 16-10-2013	CANTIERE: Sibano
QUOTA: 140 m. s.l.m.	OPERATORI: Mazzetti M. - Arbizzi A.

Strumentazione: Tromino TRZ-0134/01-11

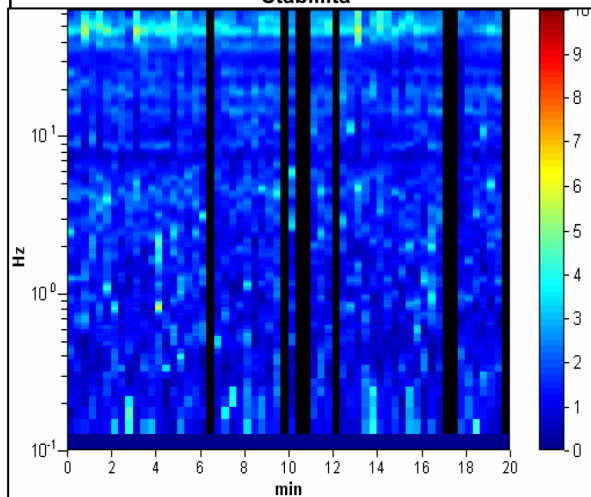
Rapporto spettrale



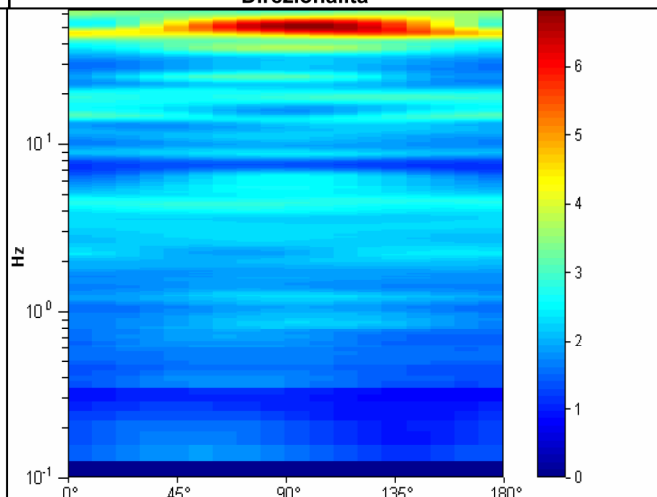
Ampiezza spettrale



Stabilità



Direzionalità

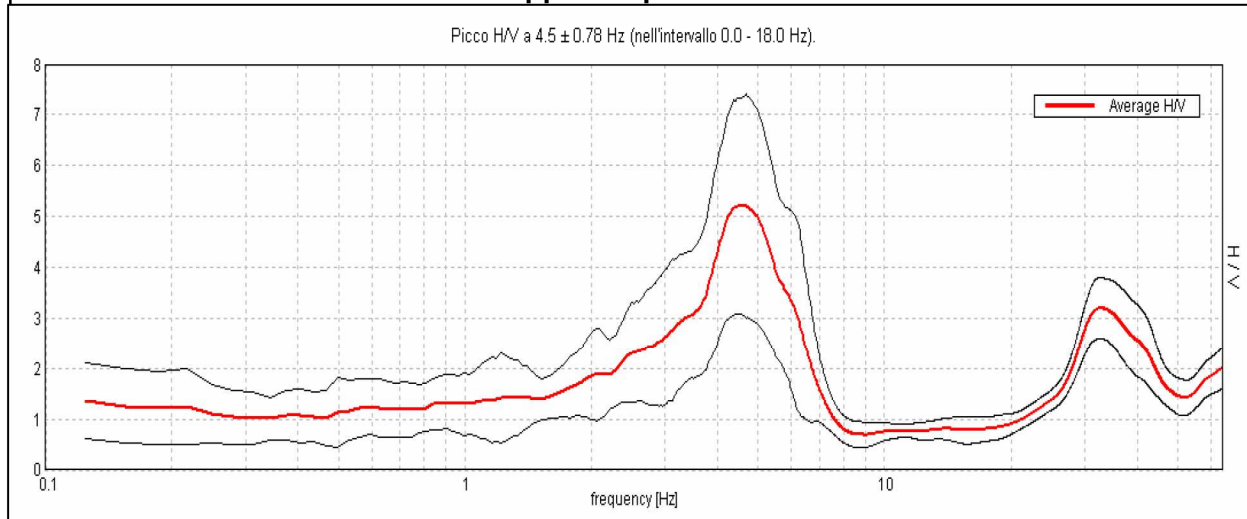


STUDIO GEOLOGICO CENTROGEO P.zza S.Quirino, 6 - 42015 CORREGGIO	INDAGINE HVSR H03
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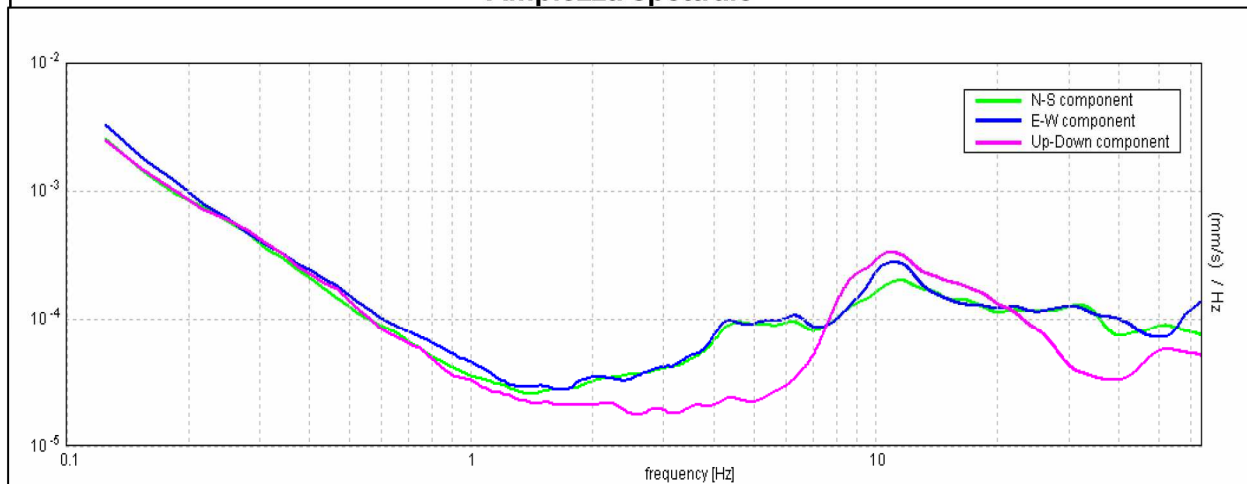
LOCALITA': Marzabotto (BO)	COMMITTENTE: Amm. Comunale
DATA: 16-10-2013	CANTIERE: Pian di Venola
QUOTA: 150 m. s.l.m.	OPERATORI: Mazzetti M. - Arbizzi A.

Strumentazione: Tromino TRZ-0134/01-11

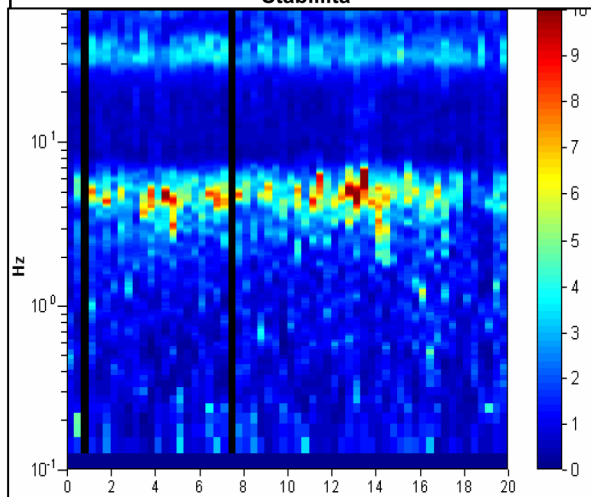
Rapporto spettrale



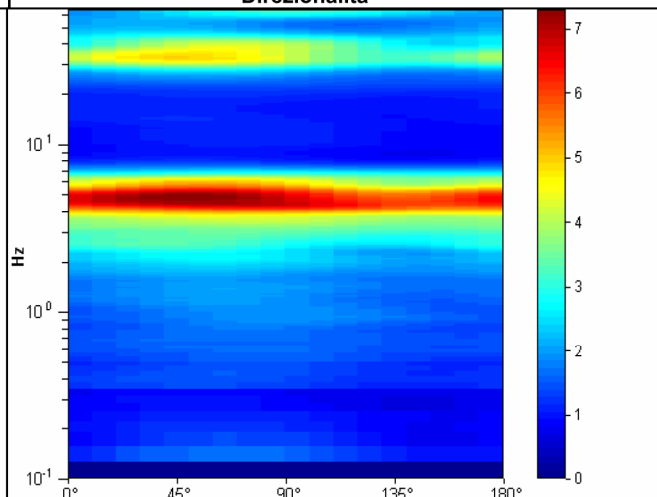
Ampiezza spettrale



Stabilità



Direzionalità



STUDIO GEOLOGICO CENTROGEO
P.zza S.Quirino, 6 - 42015 CORREGGIO

INDAGINE HVSR H04

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 16-10-2013

CANTIERE: Pian di Venola

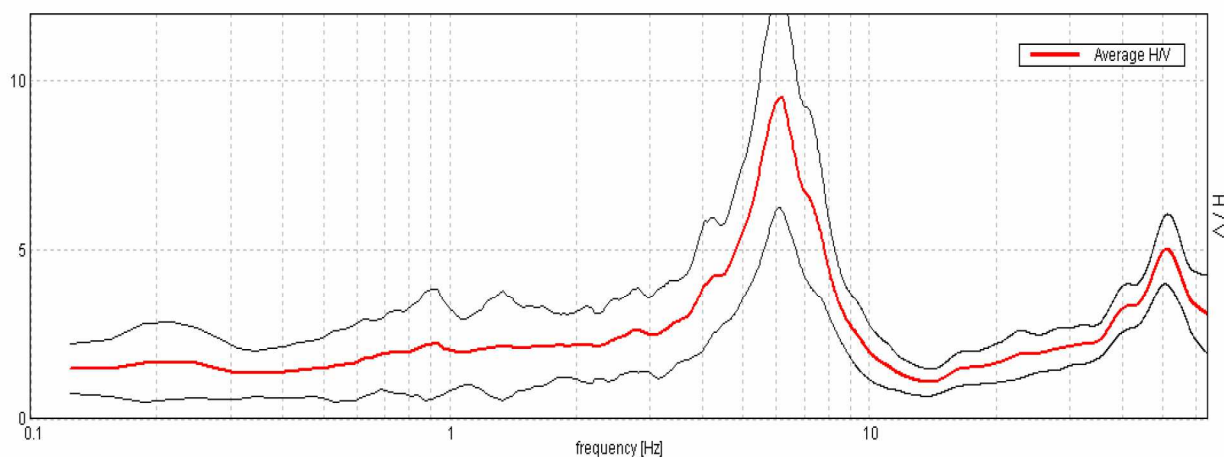
QUOTA: 150 m. s.l.m.

OPERATORI: Mazzetti M. - Arbizzi A.

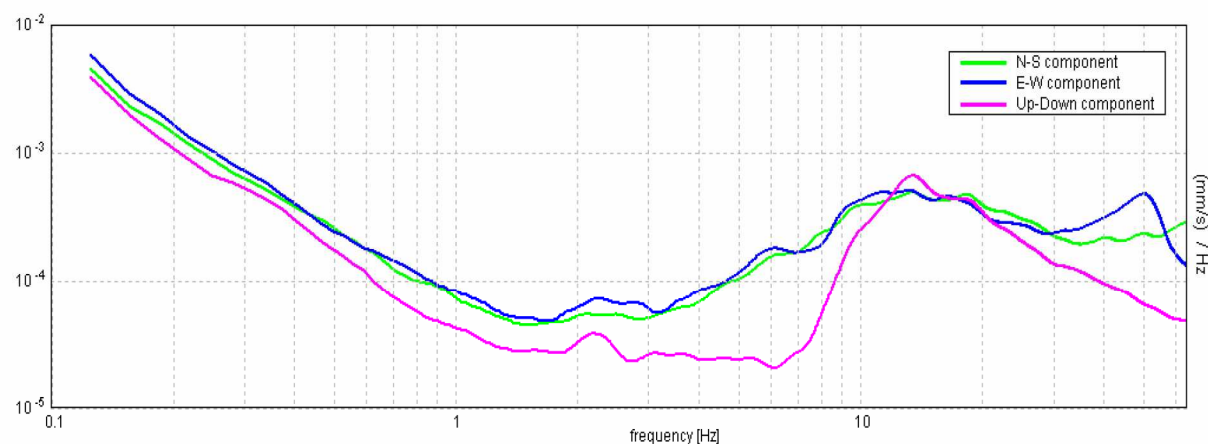
Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

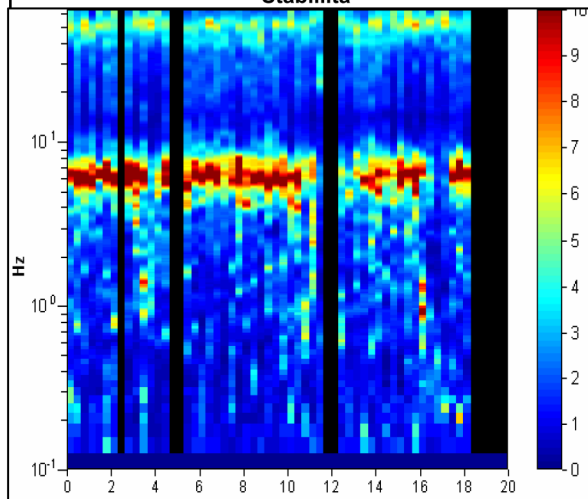
Picco HV a 6.16 ± 0.05 Hz (nell'intervallo 0.0 - 18.0 Hz).



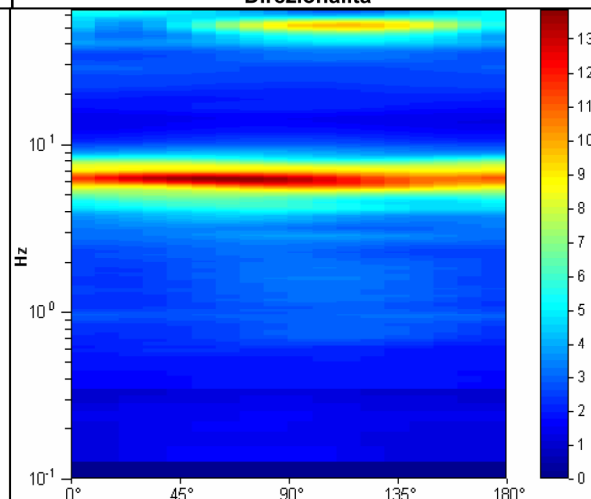
Ampiezza spettrale



Stabilità



Direzionalità



STUDIO GEOLOGICO CENTRO GEO
P.zza S. Quirino, 6 - 42015 CORREGGIO

INDAGINE HVSR H05

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 16-10-2013

CANTIERE: Marzabotto

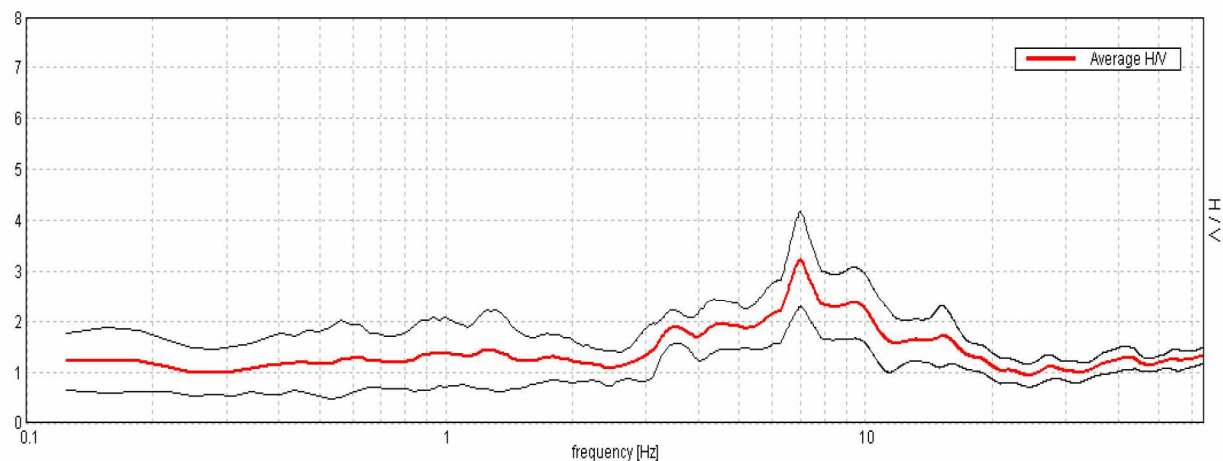
QUOTA: 130 m. s.l.m.

OPERATORI: Mazzetti M. - Arbizzi A.

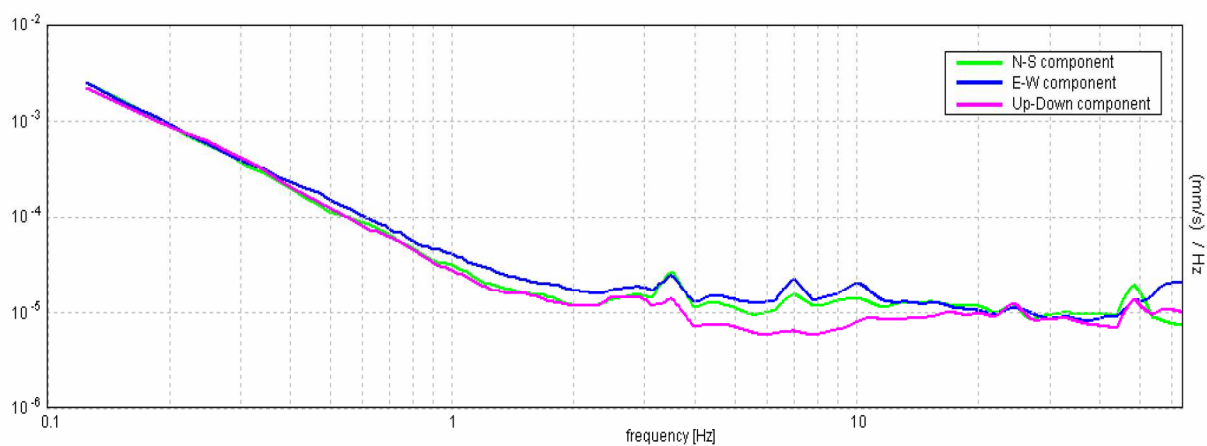
Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

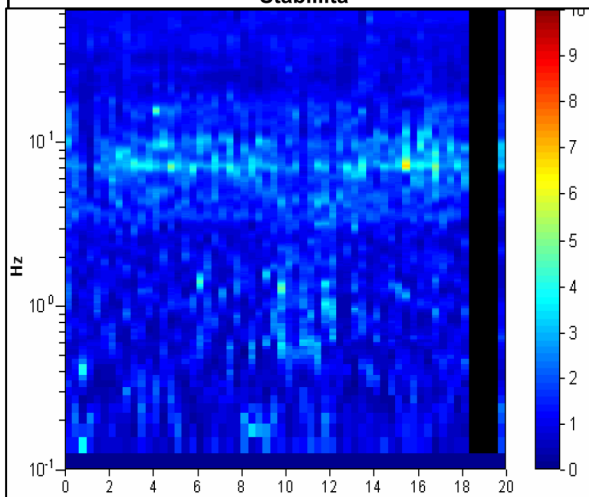
Picco HV a 7.0 ± 0.4 Hz (nell'intervallo 0.0 - 18.0 Hz).



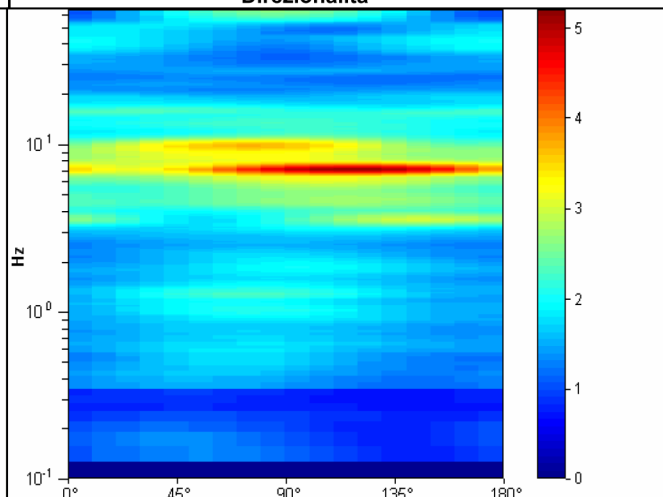
Ampiezza spettrale

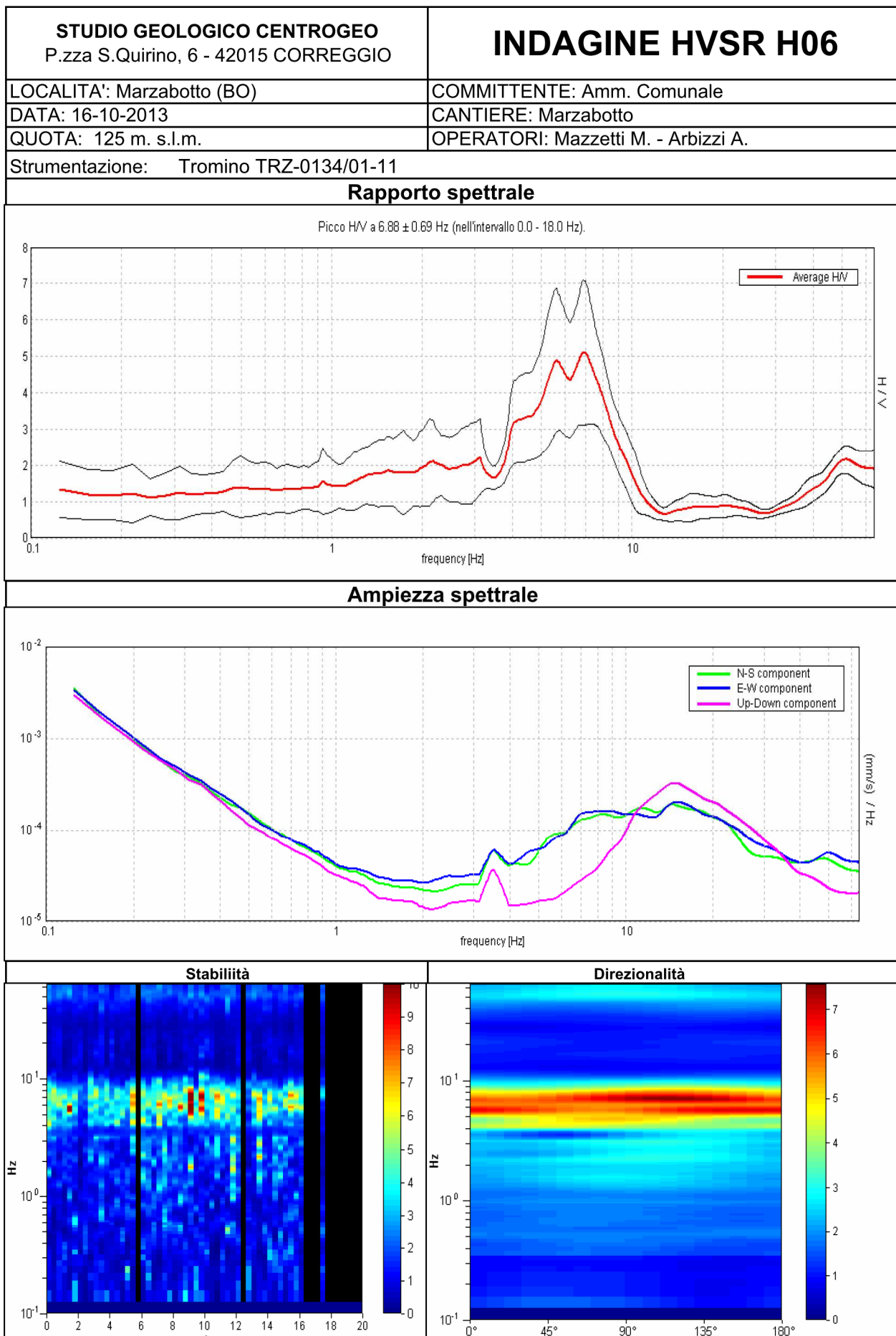


Stabilità

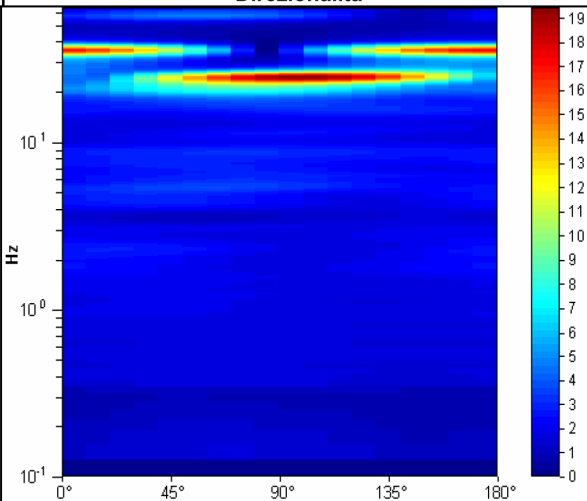


Direzionalità

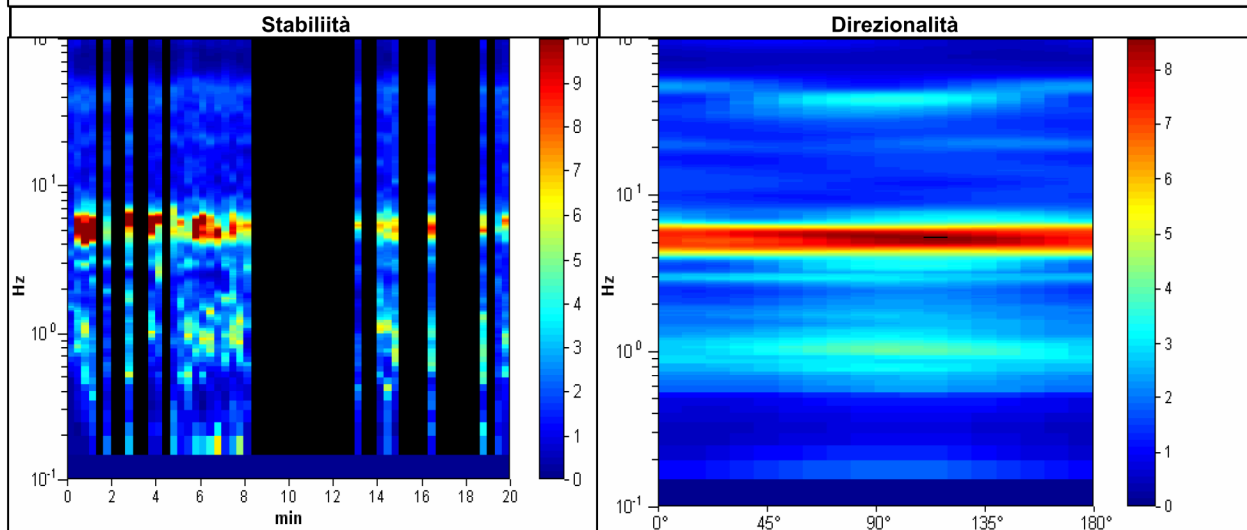
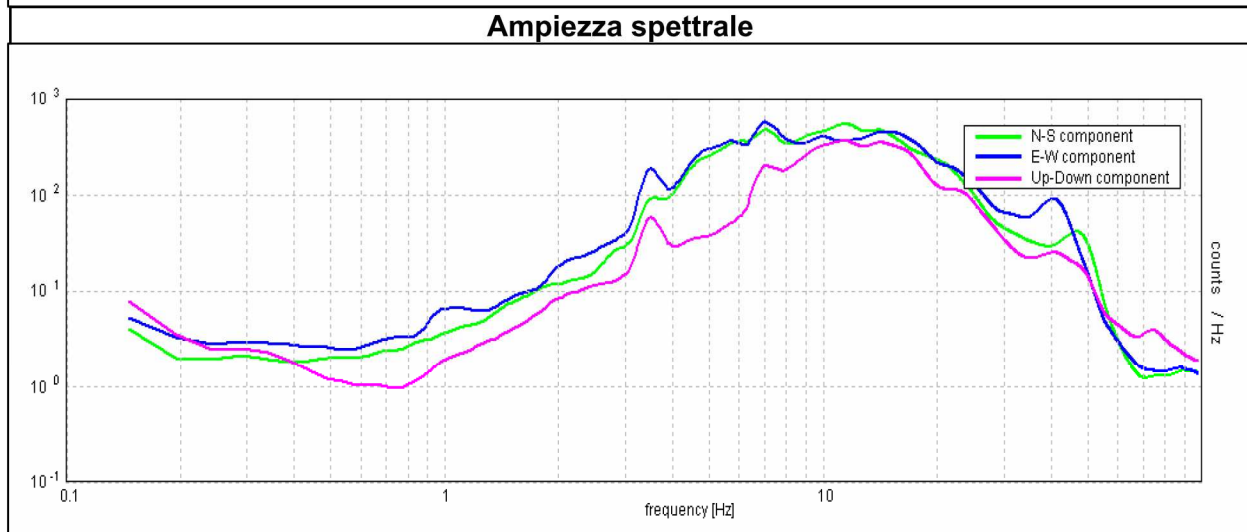
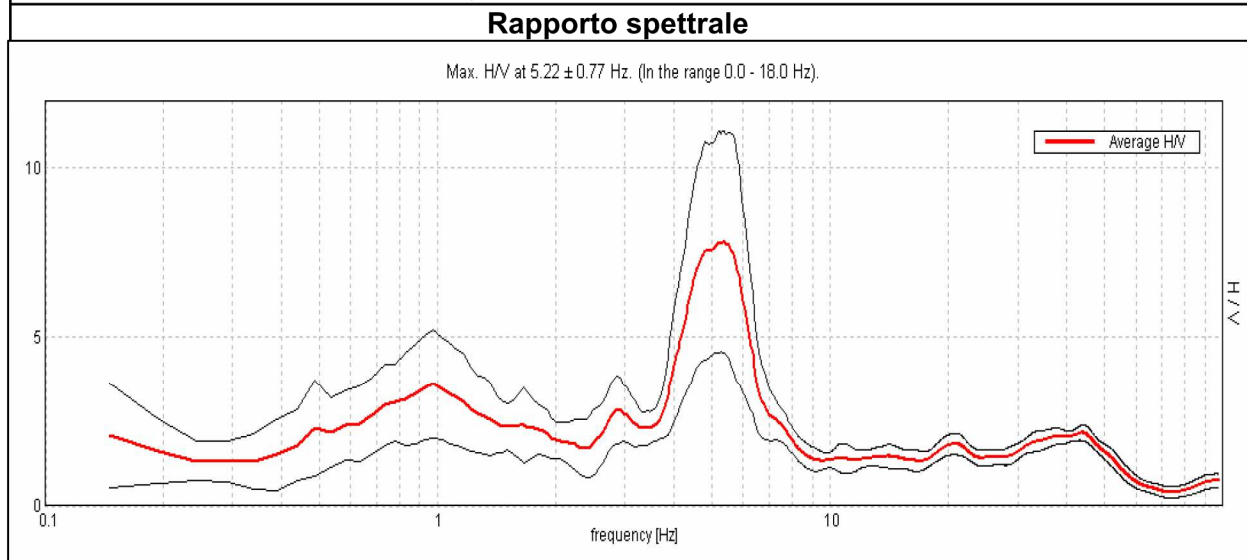




STUDIO GEOLOGICO CENTROGEO P.zza S.Quirino, 6 - 42015 CORREGGIO	INDAGINE HVSR H07
LOCALITA': Marzabotto (BO)	COMMITTENTE: Amm. Comunale
DATA: 16-10-2013	CANTIERE: Marzabotto
QUOTA: 150 m. s.l.m.	OPERATORI: Mazzetti M. - Arbizzi A.



STUDIO GEOLOGICO CENTROGEO P.zza S.Quirino, 6 - 42015 CORREGGIO	INDAGINE HVSR H08
LOCALITA': Marzabotto (BO)	COMMITTENTE: Amm. Comunale
DATA: 23-10-2013	CANTIERE: Marzabotto
QUOTA: 120 m. s.l.m.	OPERATORI: Mazzetti M. - Arbizzi A.
Strumentazione: Sara SR04 HS - 4,5 Hz - matricola N488	

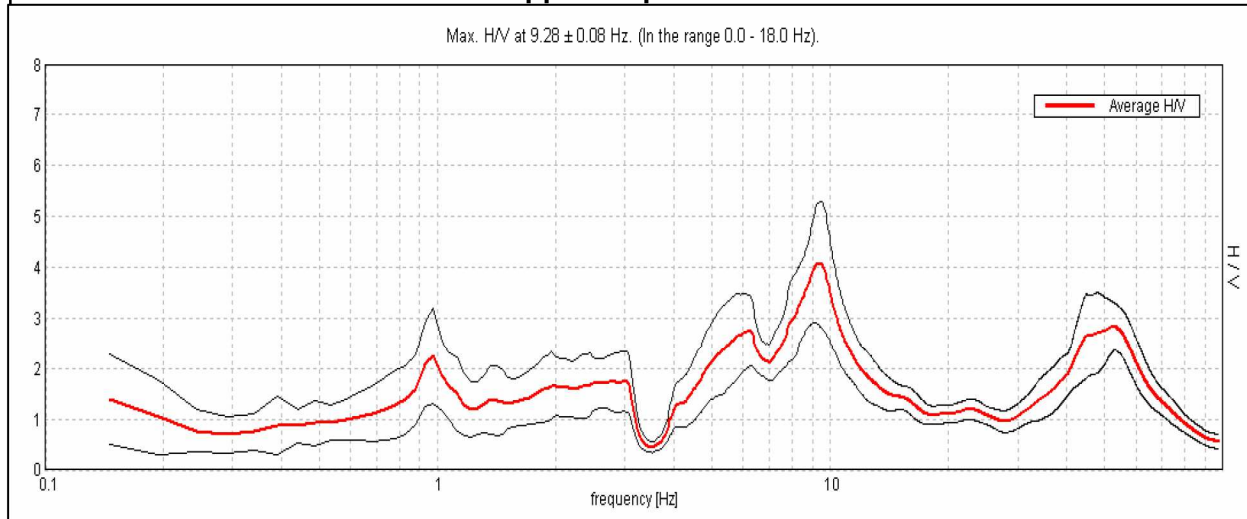


STUDIO GEOLOGICO CENTROGEO P.zza S. Quirino, 6 - 42015 CORREGGIO	INDAGINE HVSR H09
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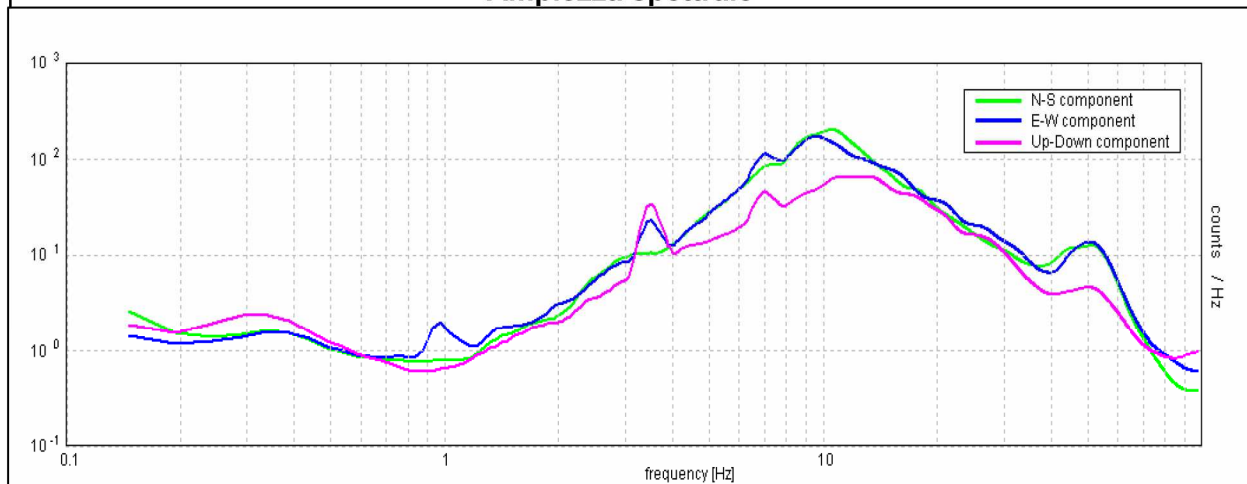
LOCALITA': Marzabotto (BO)	COMMITTENTE: Amm. Comunale
DATA: 23-10-2013	CANTIERE: Lama di Reno
QUOTA: 110 m. s.l.m.	OPERATORI: Mazzetti M. - Arbizzi A.

Strumentazione: Sara SR04 HS - 4,5 Hz - matricola N488

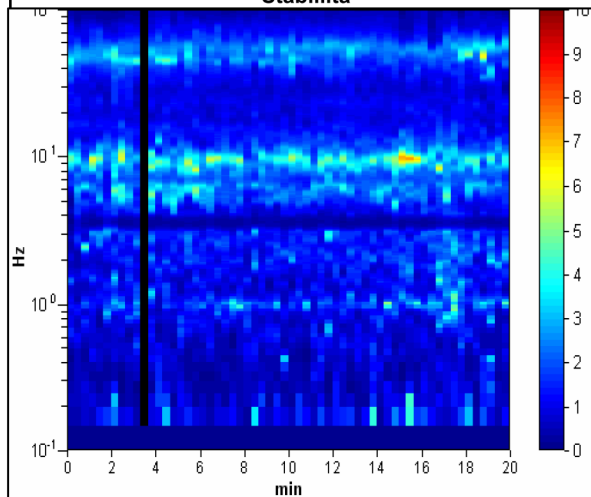
Rapporto spettrale



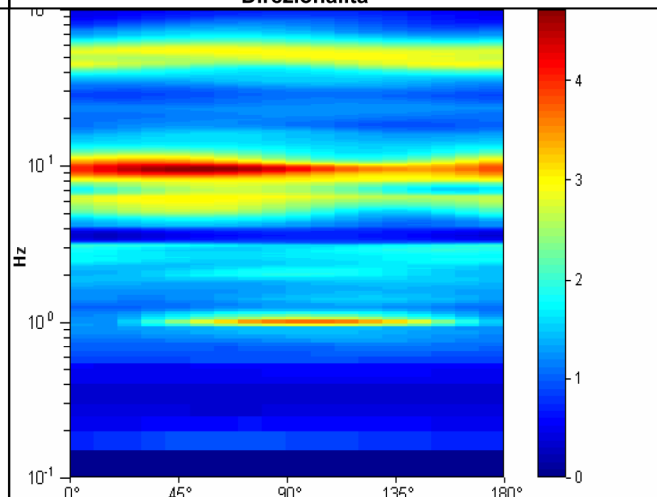
Ampiezza spettrale



Stabilità



Direzionalità

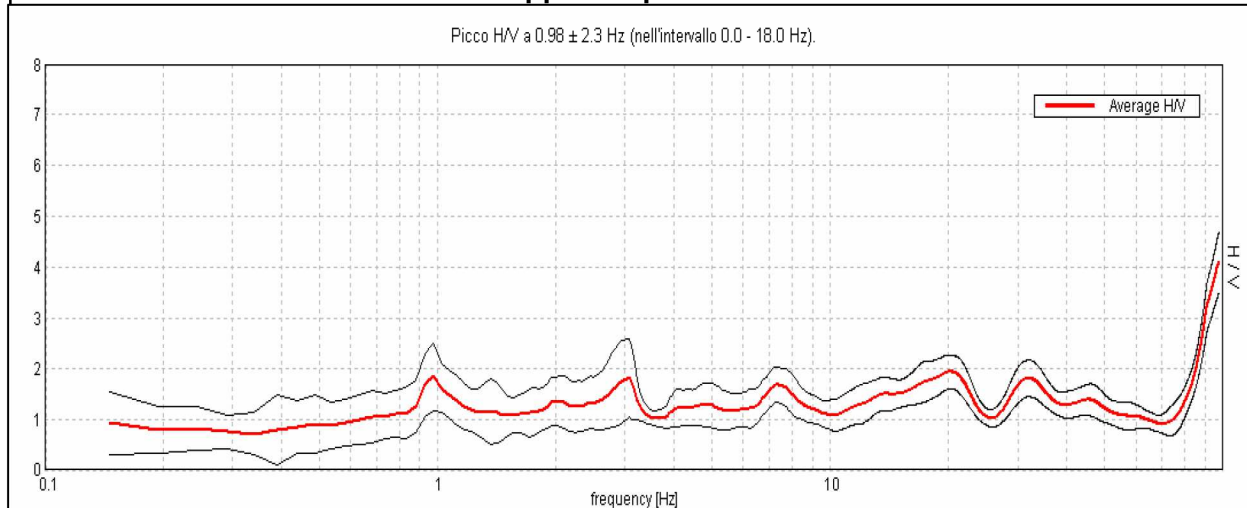


STUDIO GEOLOGICO CENTROGEO P.zza S.Quirino, 6 - 42015 CORREGGIO	INDAGINE HVSR H10
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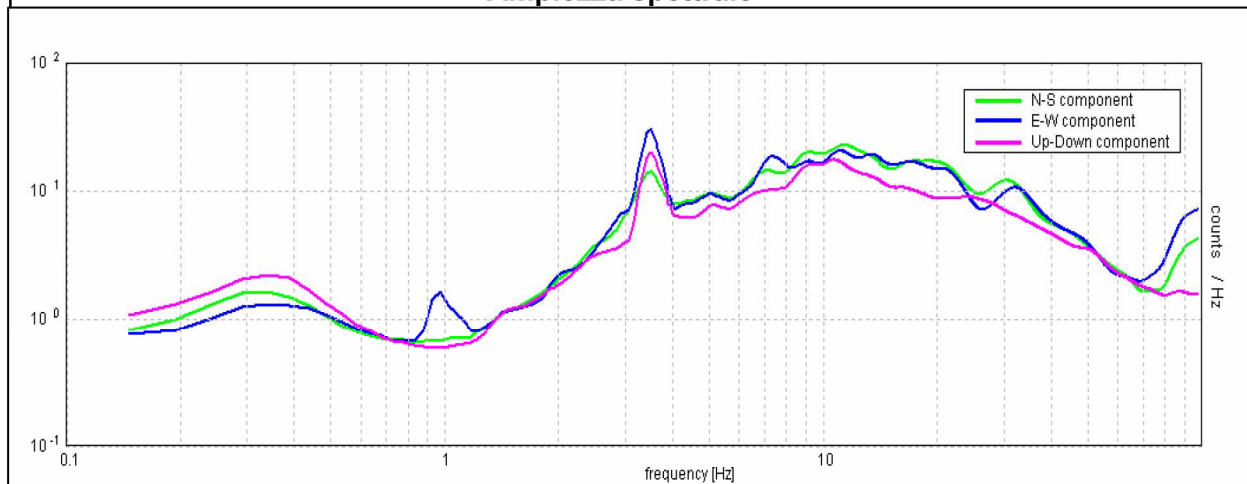
LOCALITA': Marzabotto (BO)	COMMITTENTE: Amm. Comunale
DATA: 23-10-2013	CANTIERE: Bendinella
QUOTA: 150 m. s.l.m.	OPERATORI: Mazzetti M. - Arbizzi A.

Strumentazione: Sara SR04 HS - 4,5 Hz - matricola N488

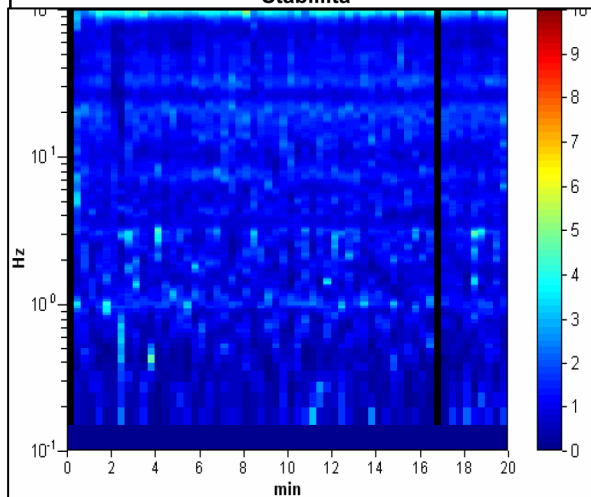
Rapporto spettrale



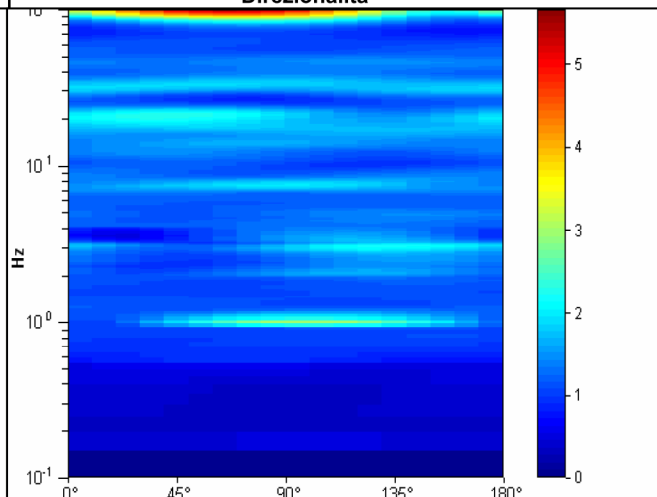
Ampiezza spettrale



Stabilità



Direzionalità



STUDIO GEOLOGICO CENTRO GEO
P.zza S. Quirino, 6 - 42015 CORREGGIO

INDAGINE HVSR H11

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 23-10-2013

CANTIERE: Bendinella

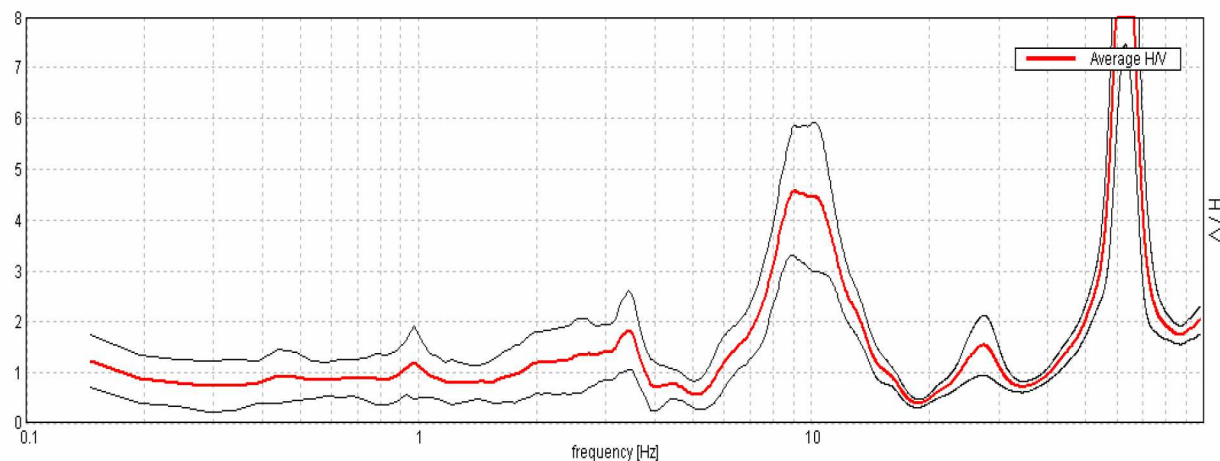
QUOTA: 120 m. s.l.m.

OPERATORI: Mazzetti M. - Arbizzi A.

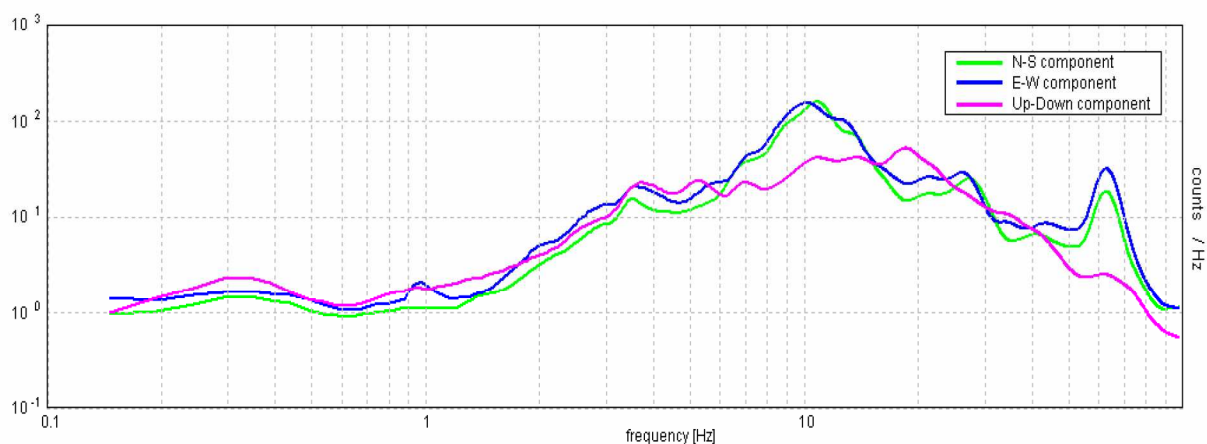
Strumentazione: Sara SR04 HS - 4,5 Hz - matricola N488

Rapporto spettrale

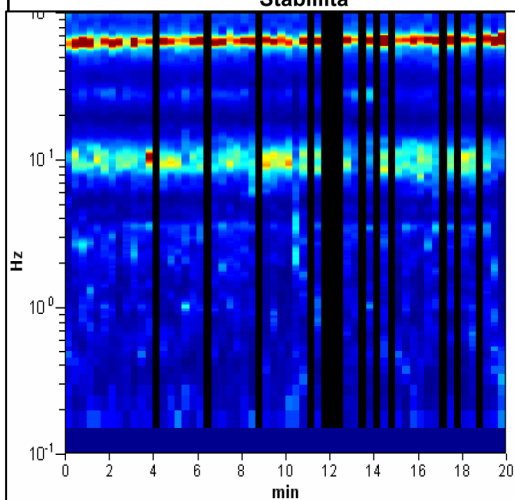
Picco H/V a 9.03 ± 0.5 Hz (nell'intervallo 0.0 - 18.0 Hz).



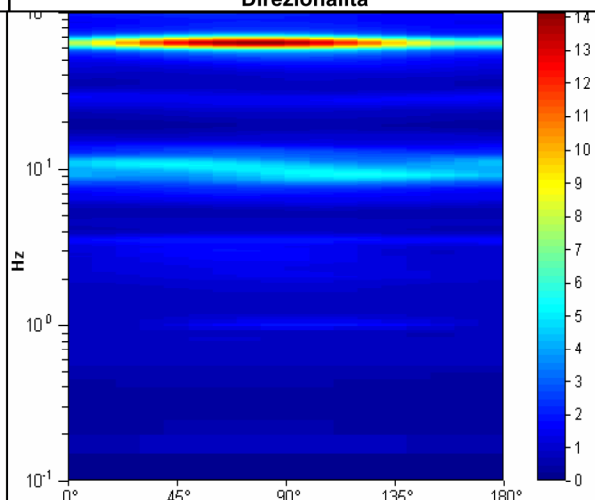
Ampiezza spettrale

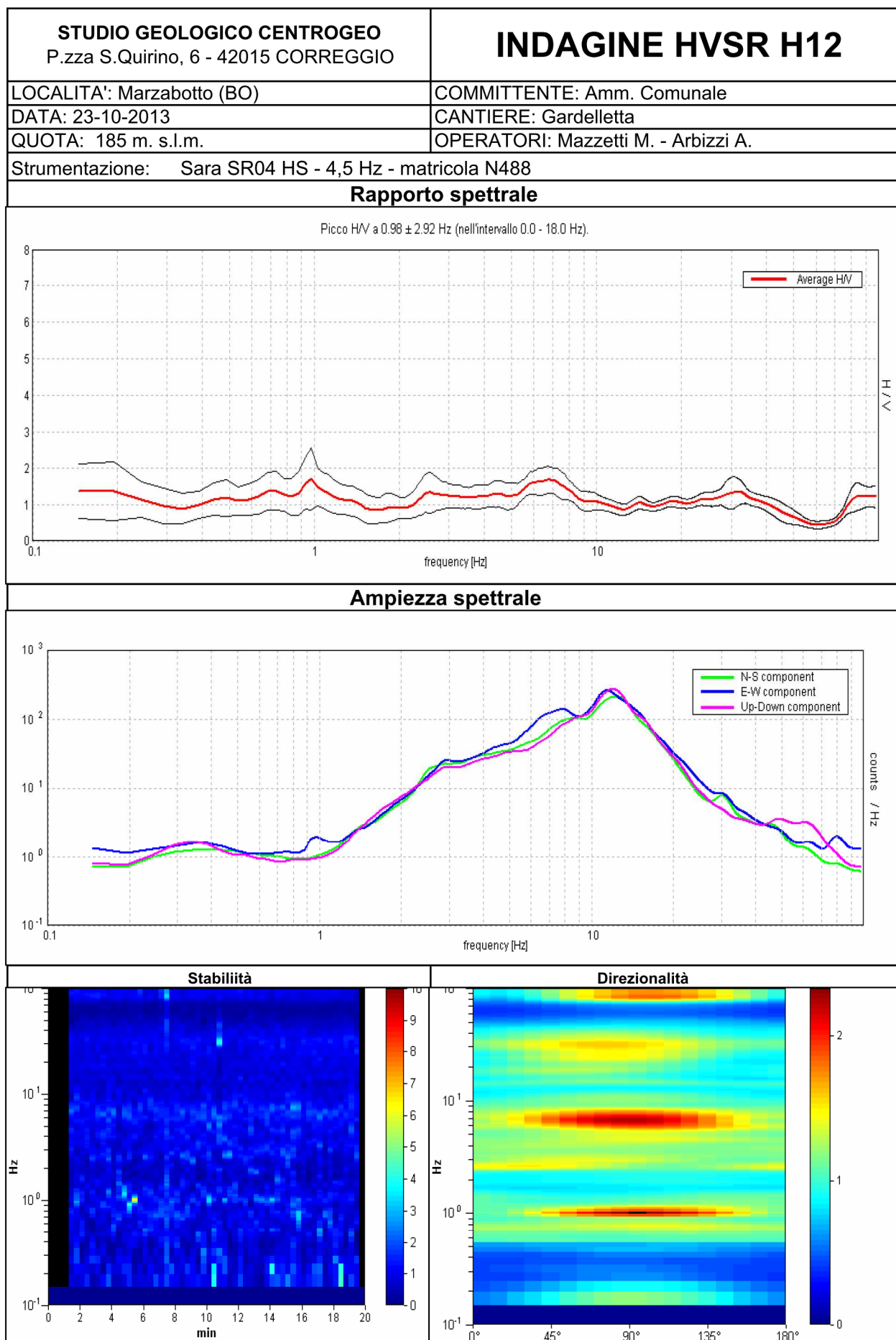


Stabilità



Direzionalità





STUDIO GEOLOGICO CENTRO GEO
P.zza S. Quirino, 6 - 42015 CORREGGIO

INDAGINE HVSR H13

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 23-10-2013

CANTIERE: Le Murazze

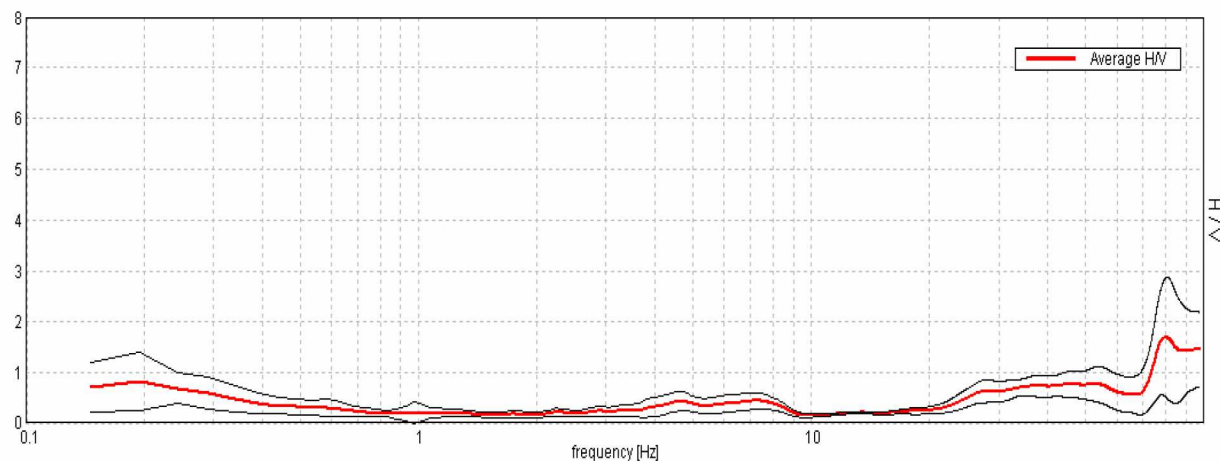
QUOTA: 190 m. s.l.m.

OPERATORI: Mazzetti M. - Arbizzi A.

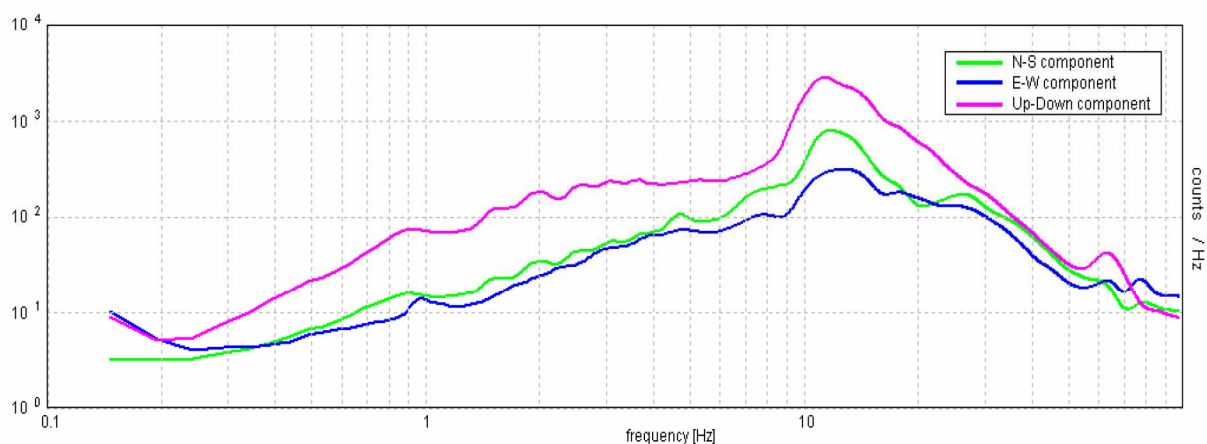
Strumentazione: Sara SR04 HS - 4,5 Hz - matricola N488

Rapporto spettrale

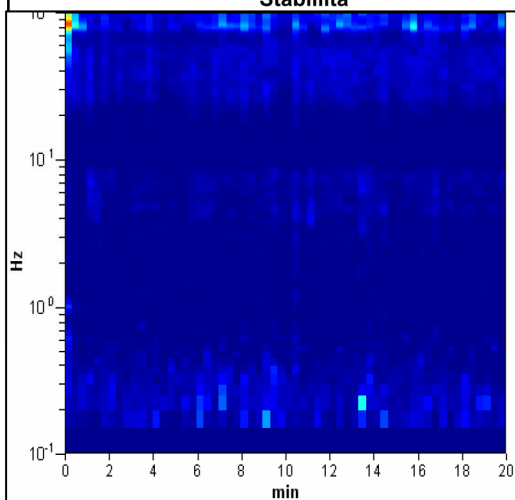
Picco H/V a 0.2 ± 0.18 Hz (nell'intervallo 0.0 - 18.0 Hz).



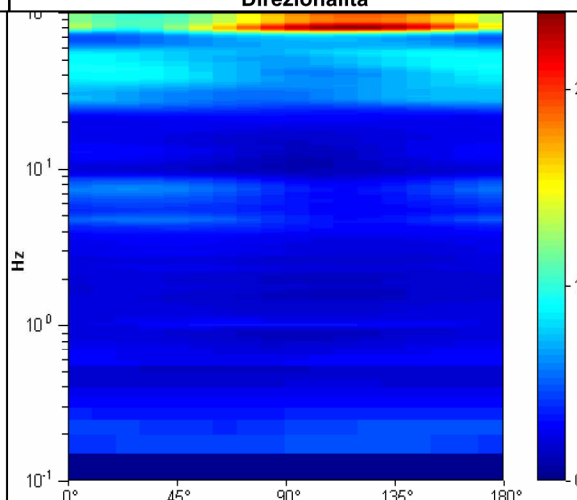
Ampiezza spettrale



Stabilità



Direzionalità

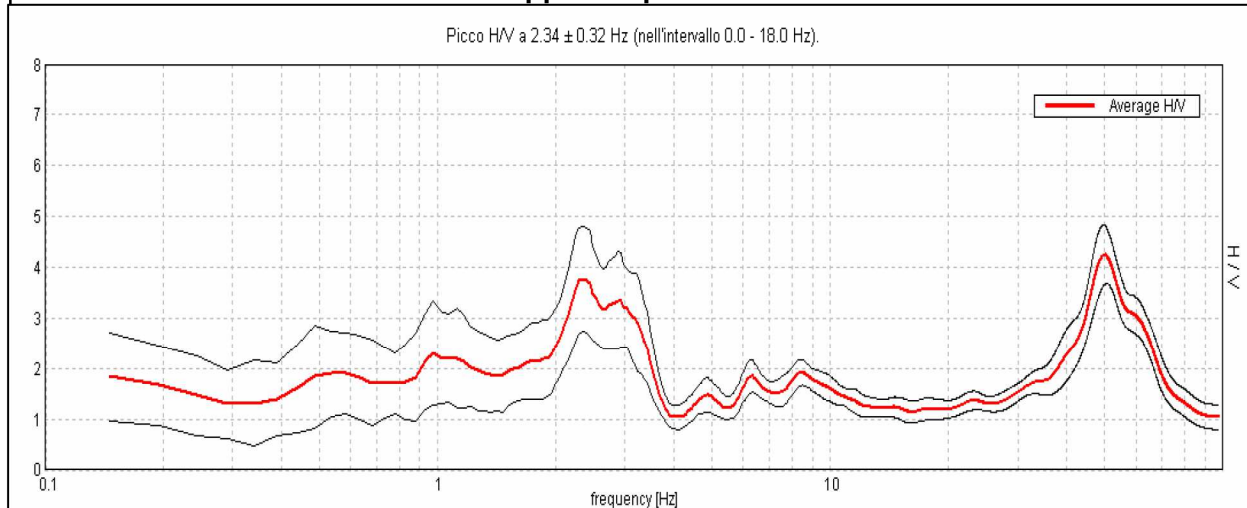


STUDIO GEOLOGICO CENTROGEO P.zza S. Quirino, 6 - 42015 CORREGGIO	INDAGINE HVSR H14
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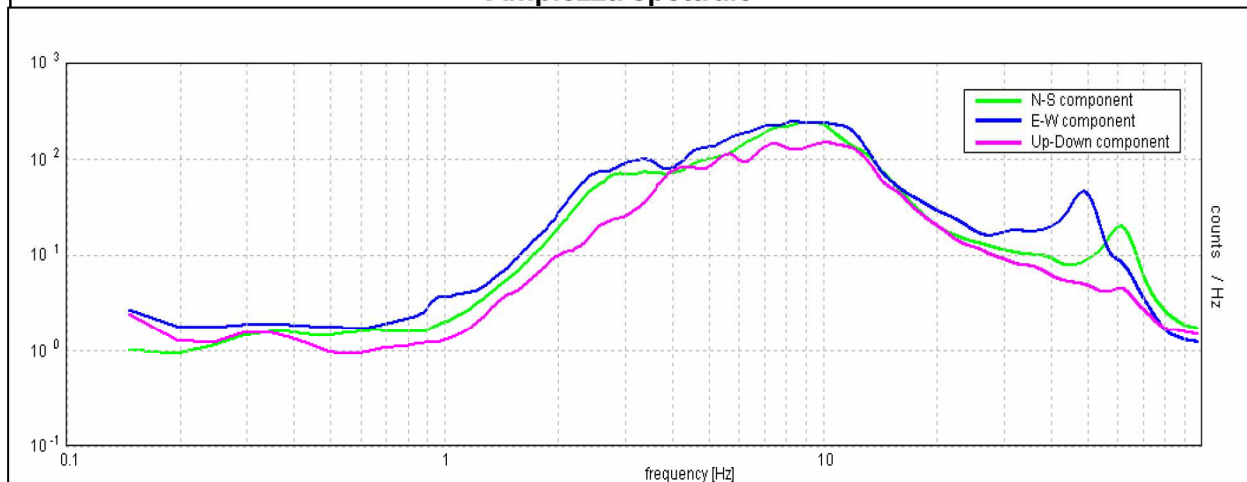
LOCALITA': Marzabotto (BO)	COMMITTENTE: Amm. Comunale
DATA: 23-10-2013	CANTIERE: L'America
QUOTA: 270 m. s.l.m.	OPERATORI: Mazzetti M. - Arbizzi A.

Strumentazione: Sara SR04 HS - 4,5 Hz - matricola N488

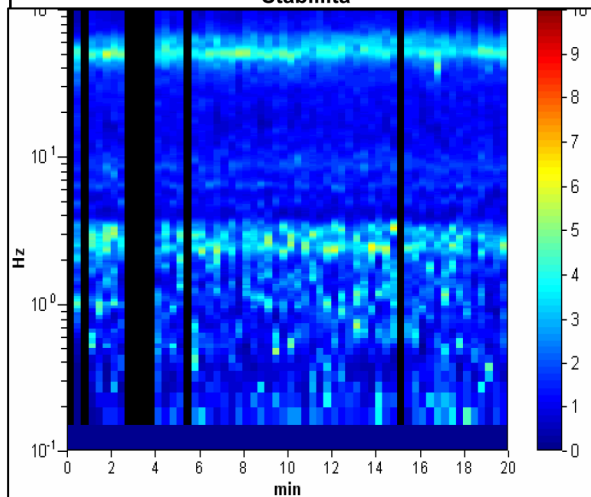
Rapporto spettrale



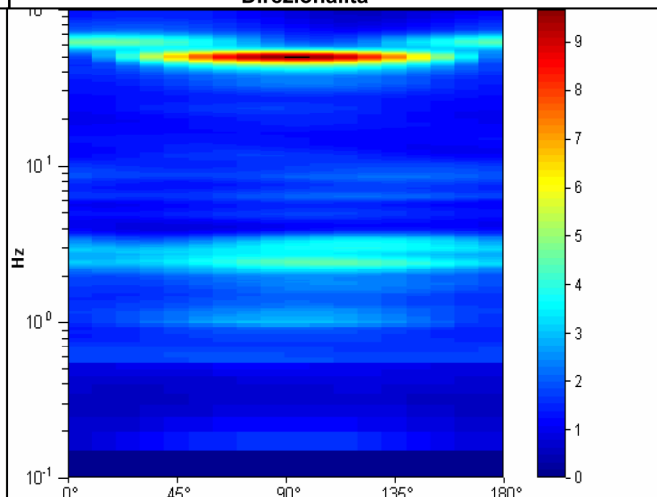
Ampiezza spettrale



Stabilità



Direzionalità

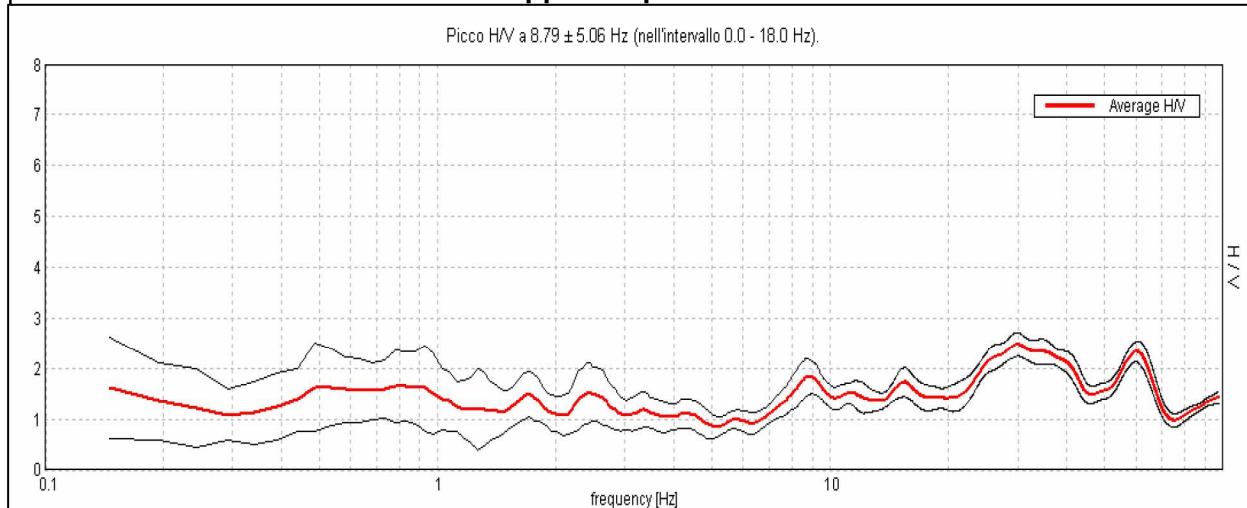


STUDIO GEOLOGICO CENTRO GEO P.zza S. Quirino, 6 - 42015 CORREGGIO	INDAGINE HVSR H15
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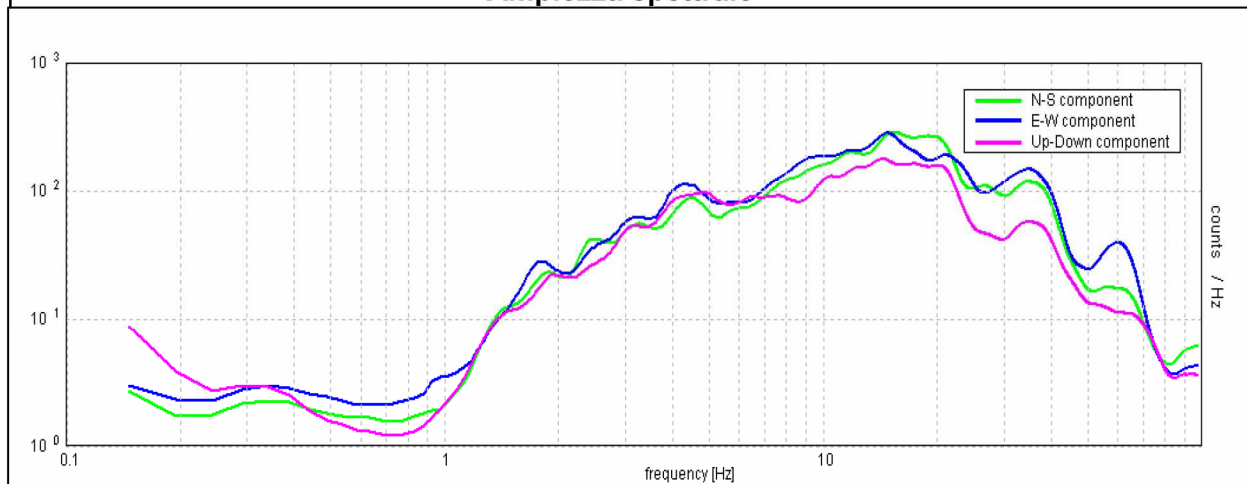
LOCALITA': Marzabotto (BO)	COMMITTENTE: Amm. Comunale
DATA: 23-10-2013	CANTIERE: Casetta
QUOTA: 270 m. s.l.m.	OPERATORI: Mazzetti M. - Arbizzi A.

Strumentazione: Sara SR04 HS - 4,5 Hz - matricola N488

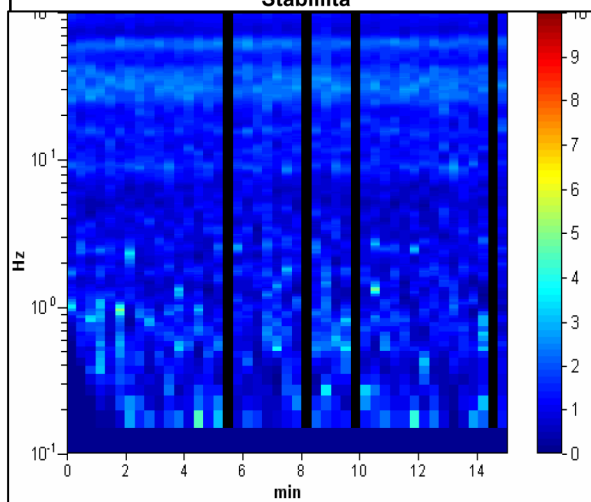
Rapporto spettrale



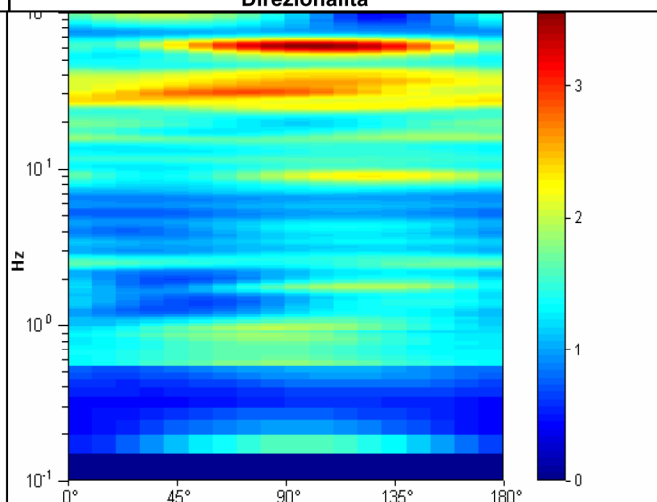
Ampiezza spettrale



Stabilità



Direzionalità



STUDIO GEOLOGICO CENTRO GEO
P.zza S. Quirino, 6 - 42015 CORREGGIO

INDAGINE HVSR H16

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 25-10-2013

CANTIERE: Allocco di Sopra

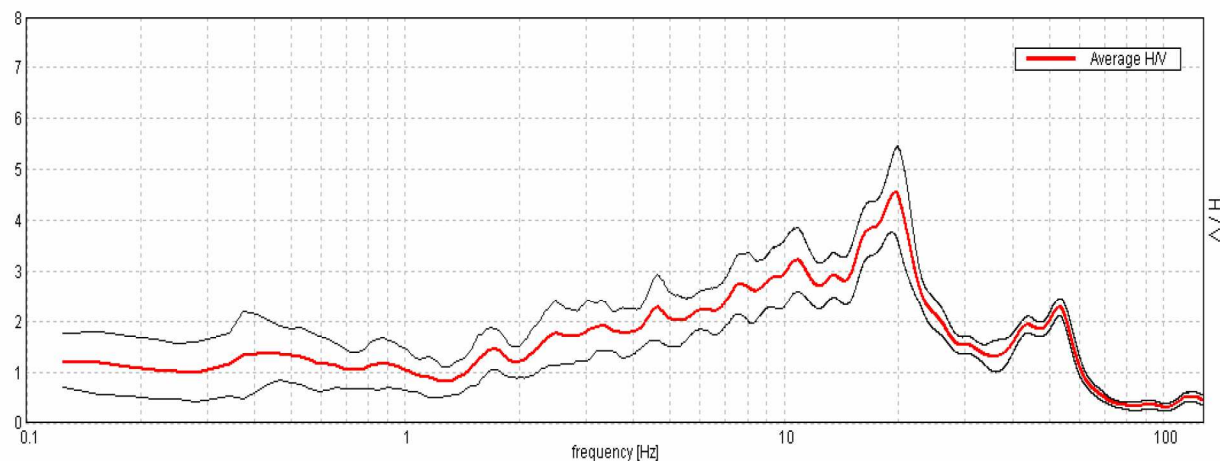
QUOTA: 220 m. s.l.m.

OPERATORI: Mazzetti M. - Arbizzi A.

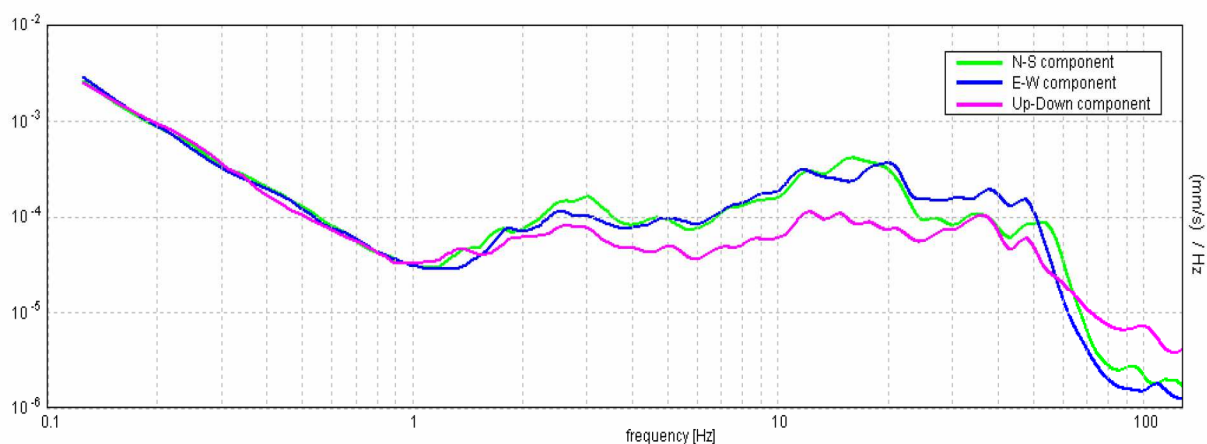
Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

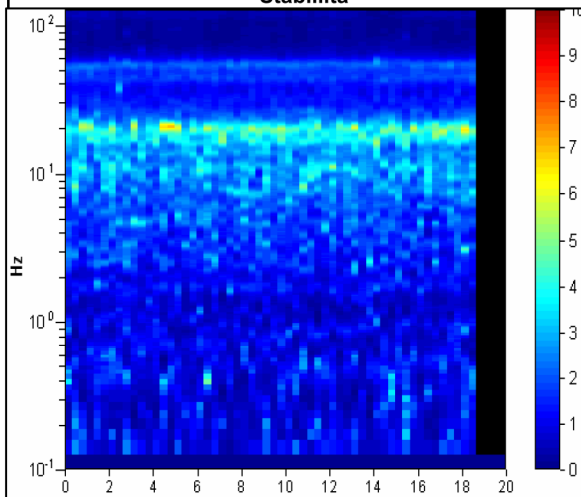
Picco H/V a 17.97 ± 2.7 Hz (nell'intervallo 0.0 - 18.0 Hz).



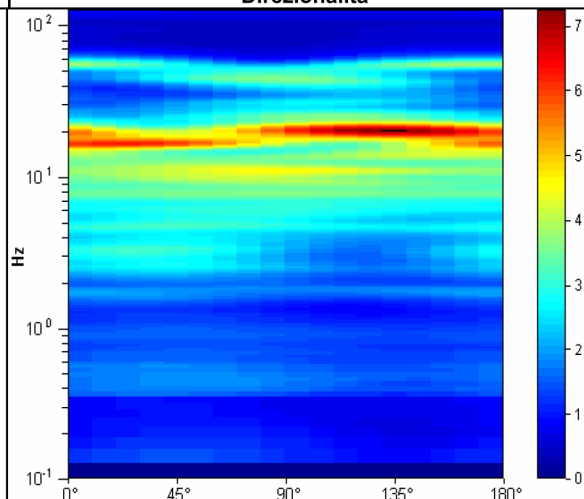
Ampiezza spettrale



Stabilità



Direzionalità



STUDIO GEOLOGICO CENTRO GEO
P.zza S. Quirino, 6 - 42015 CORREGGIO

INDAGINE HVSR H17

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 25-10-2013

CANTIERE: Via Carbonara

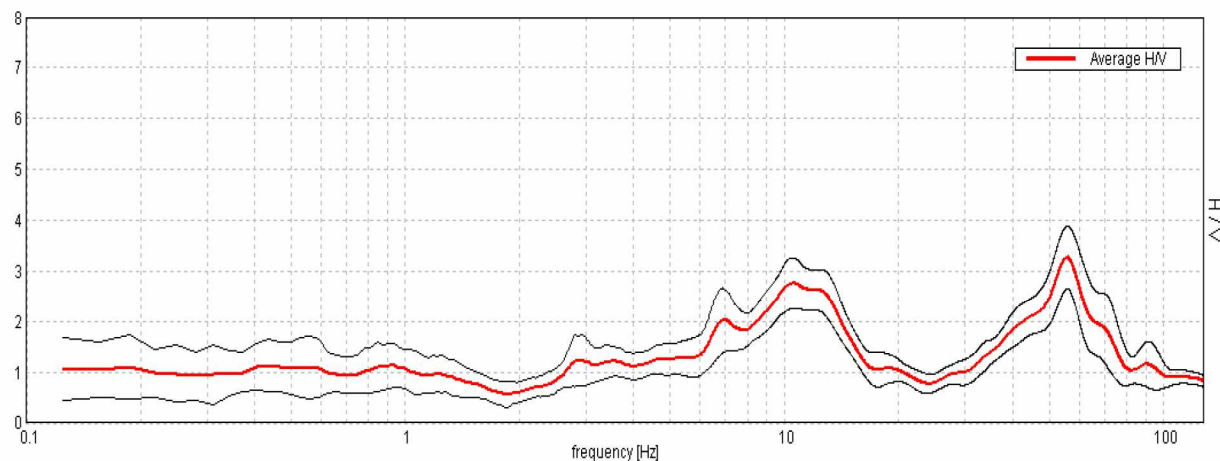
QUOTA: 175 m. s.l.m.

OPERATORI: Mazzetti M. - Arbizzi A.

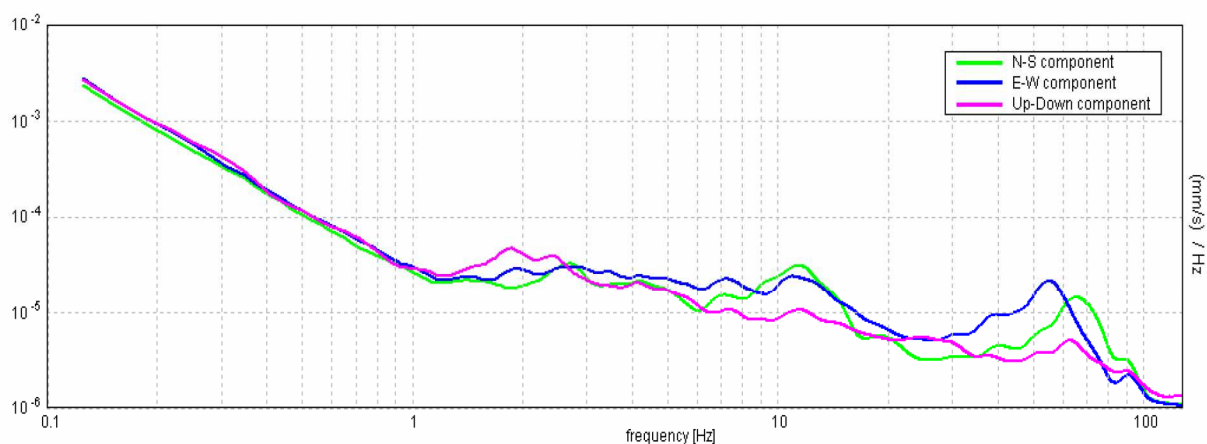
Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

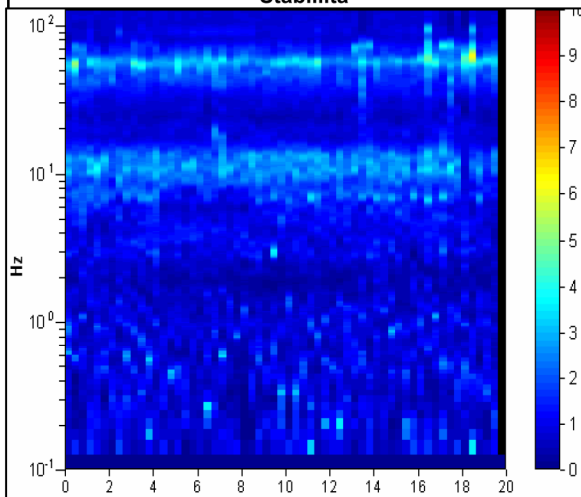
Picco HV a 10.63 ± 0.51 Hz (nell'intervallo 0.0 - 18.0 Hz).



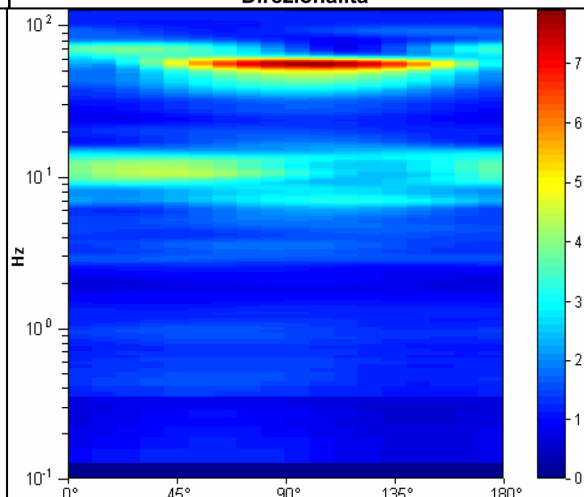
Ampiezza spettrale



Stabilità

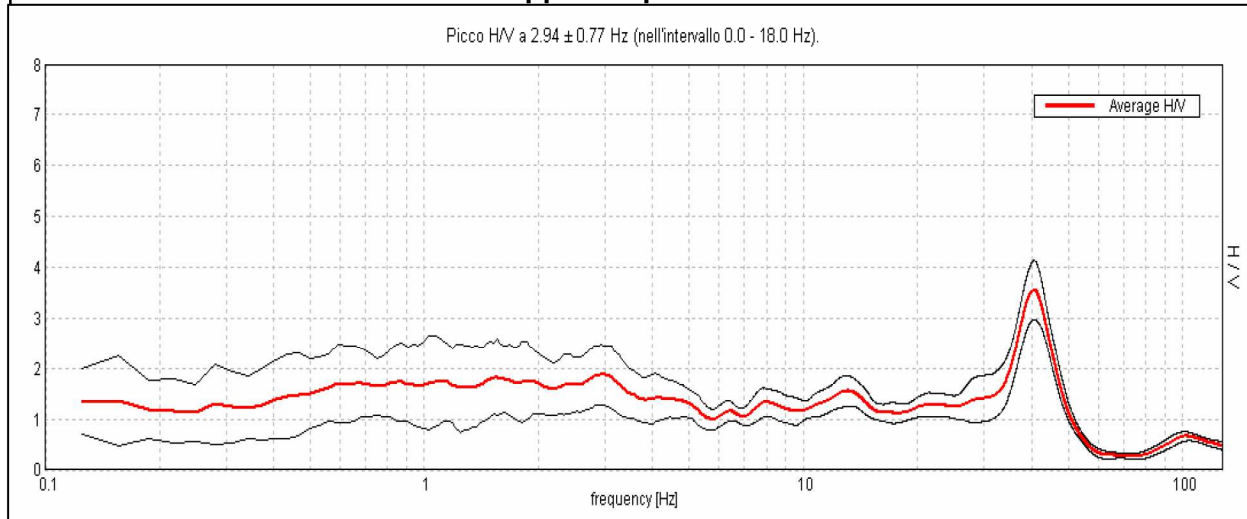


Direzionalità

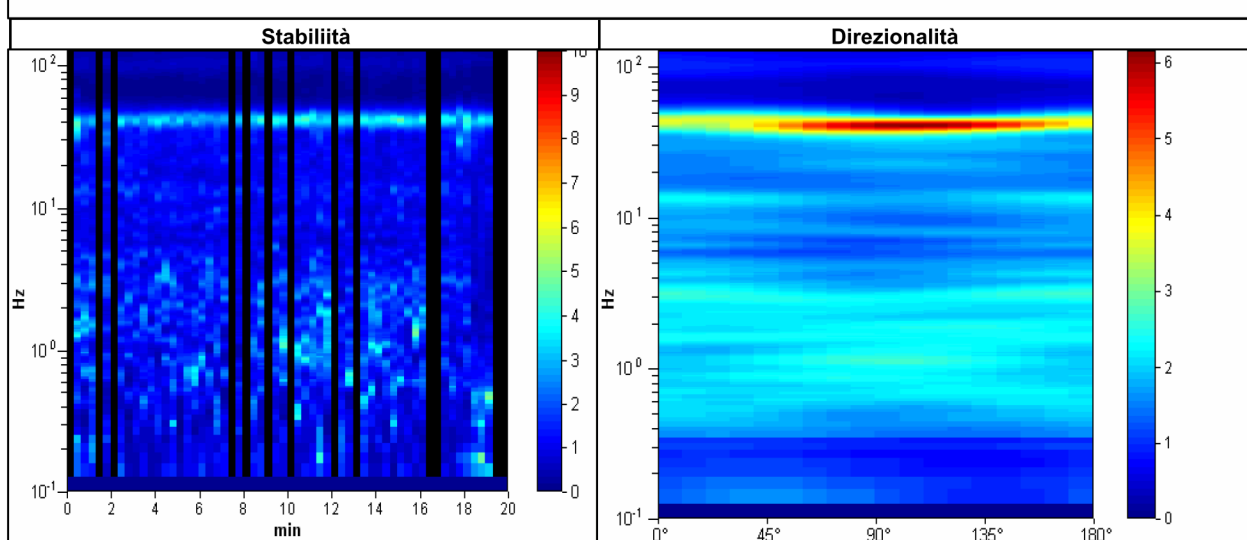
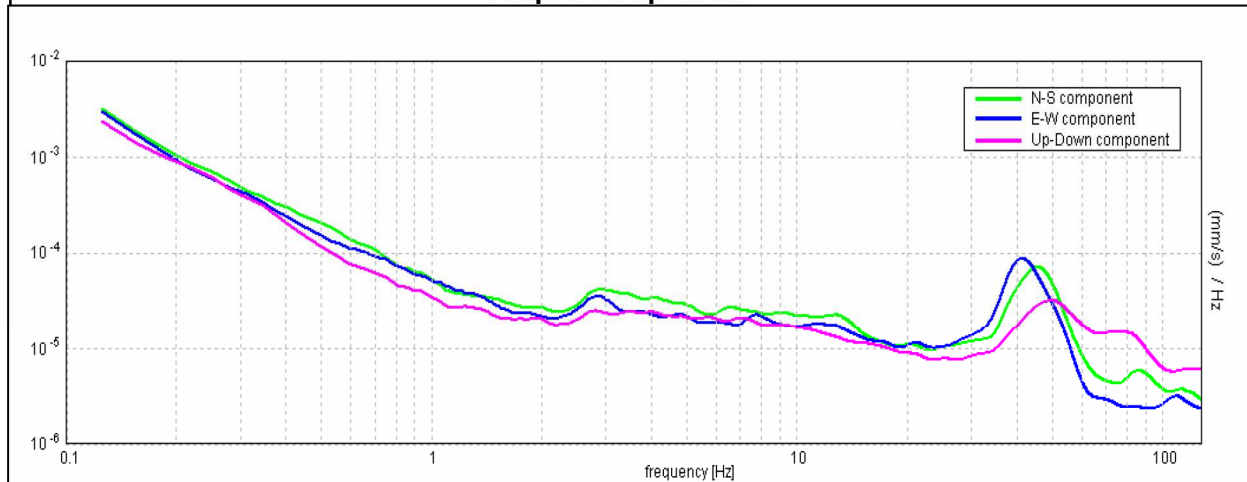


STUDIO GEOLOGICO CENTROGEO P.zza S.Quirino, 6 - 42015 CORREGGIO	INDAGINE HVSR H18
LOCALITA': Marzabotto (BO)	COMMITTENTE: Amm. Comunale
DATA: 25-10-2013	CANTIERE: Sirano
QUOTA: 125 m. s.l.m.	OPERATORI: Mazzetti M. - Arbizzi A.

Rapporto spettrale



Ampiezza spettrale



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INDAGINE HVSR H19

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 25-10-2013

CANTIERE: Sirano

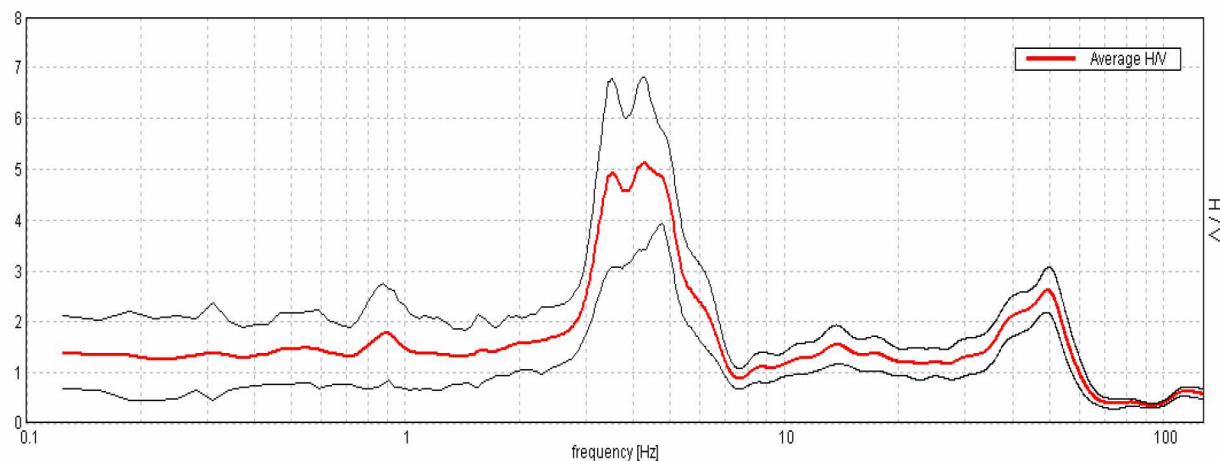
QUOTA: 150 m. s.l.m.

OPERATORI: Mazzetti M. - Arbizzi A.

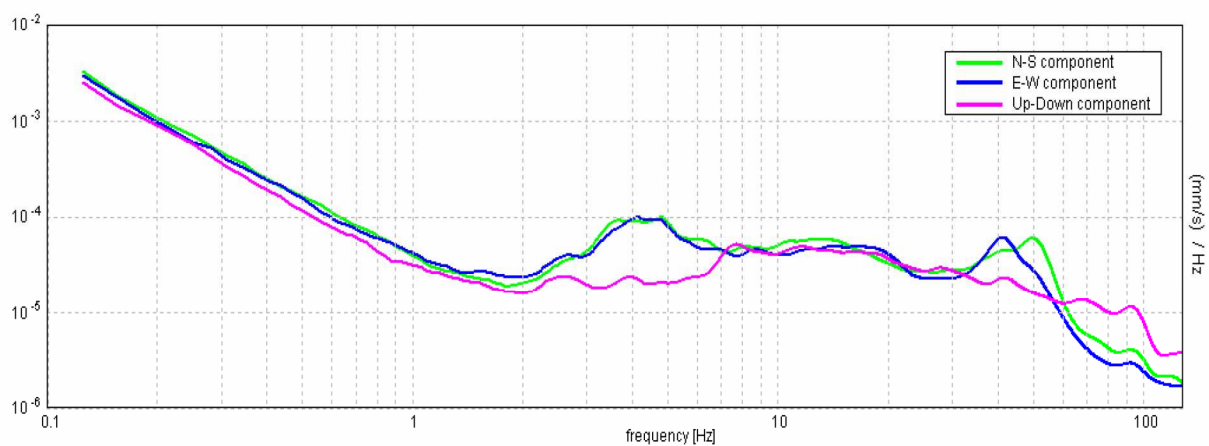
Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

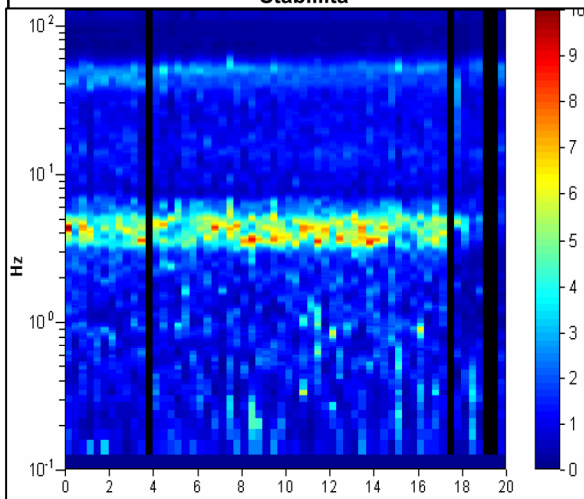
Picco H/V a 4.25 ± 0.1 Hz (nell'intervallo 0.0 - 18.0 Hz).



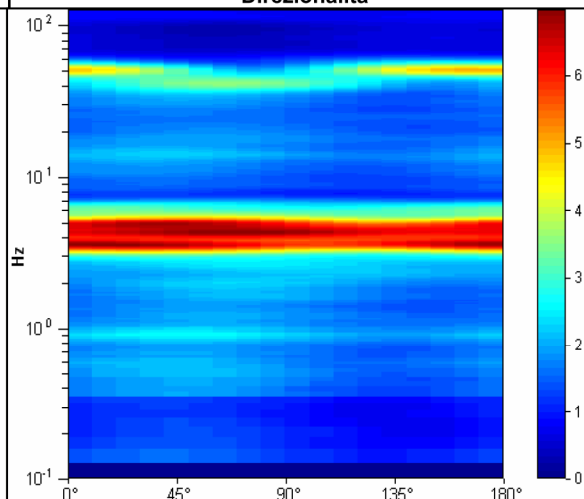
Ampiezza spettrale



Stabilità



Direzionalità



STUDIO GEOLOGICO CENTRO GEO
P.zza S. Quirino, 6 - 42015 CORREGGIO

INDAGINE HVSR H20

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 25-10-2013

CANTIERE: Sirano

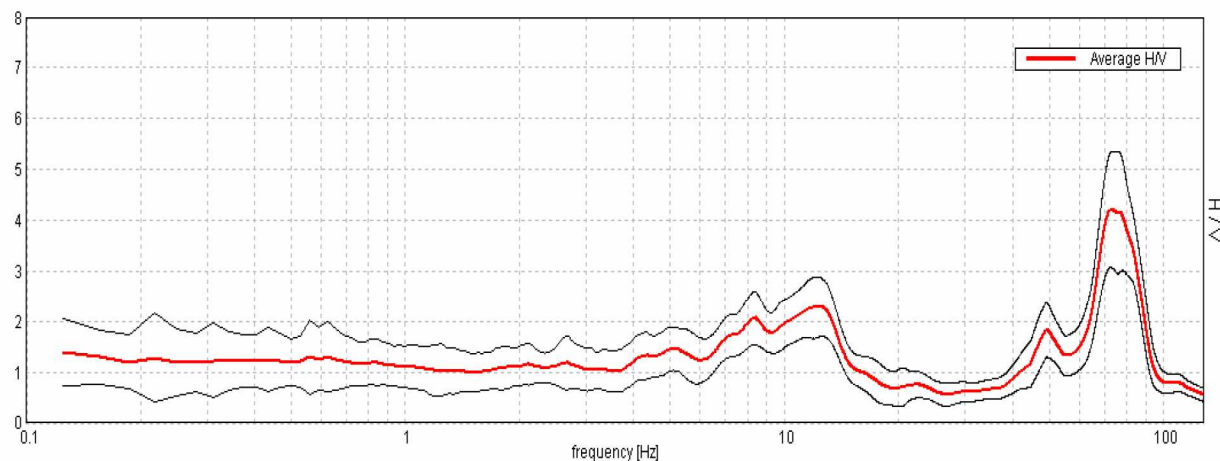
QUOTA: 140 m. s.l.m.

OPERATORI: Mazzetti M. - Arbizzi A.

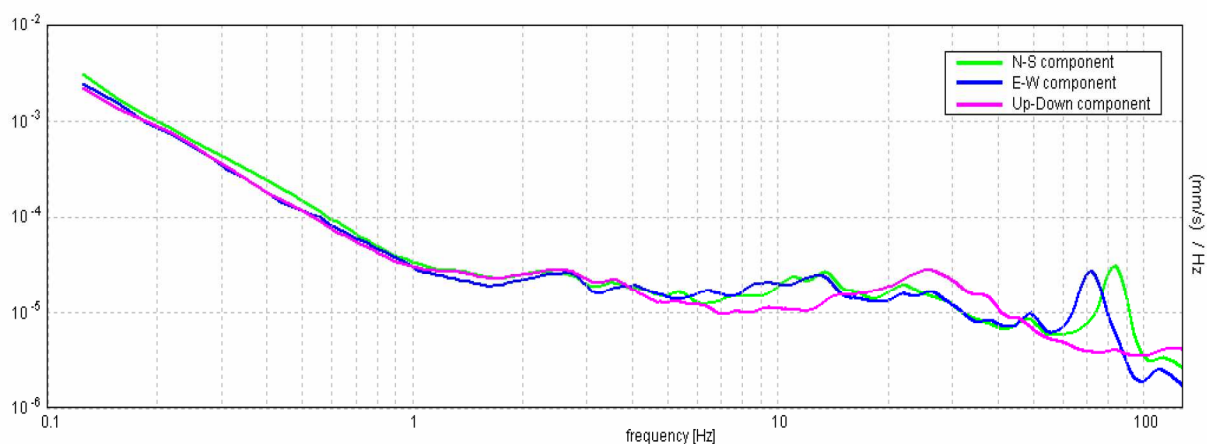
Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

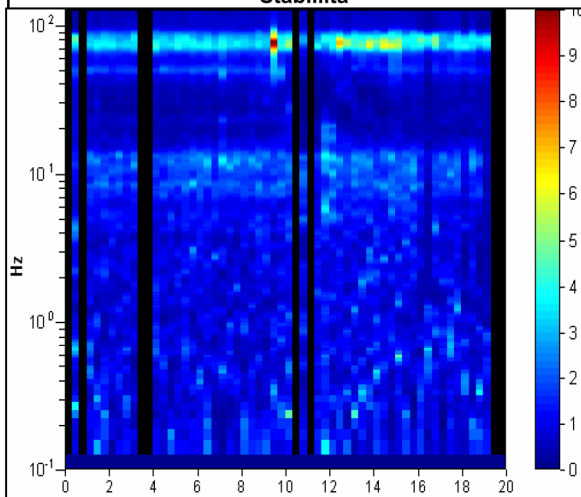
Picco HV a 12.41 ± 2.96 Hz (nell'intervallo 0.0 - 18.0 Hz).



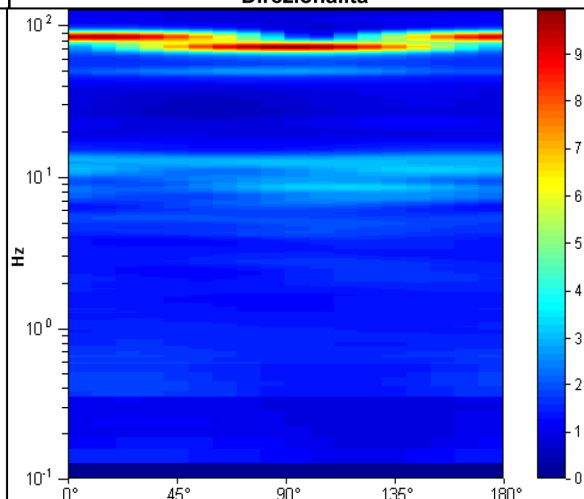
Ampiezza spettrale



Stabilità



Direzionalità

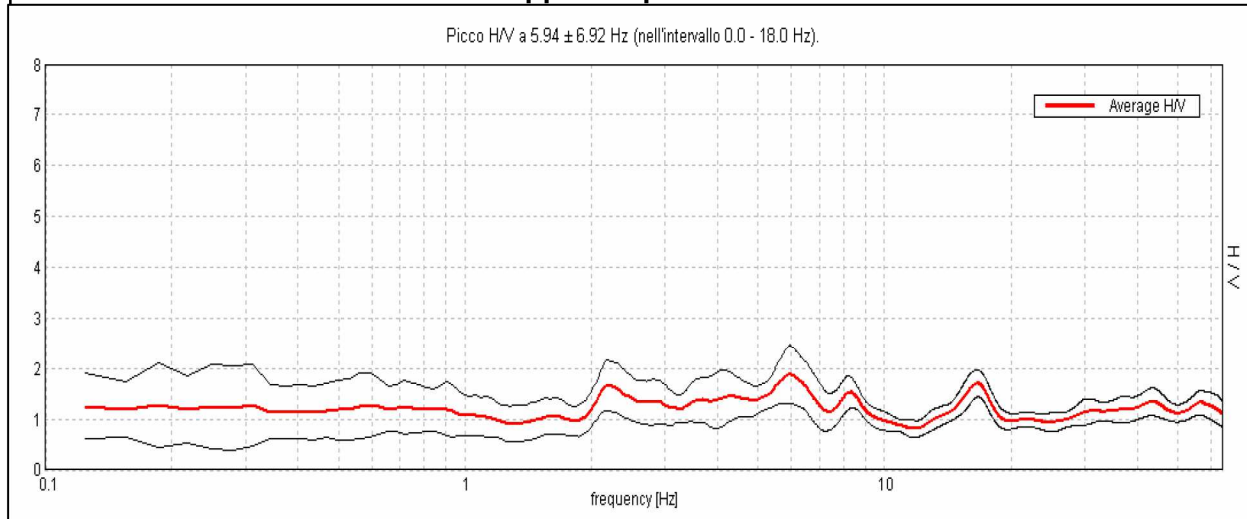


STUDIO GEOLOGICO CENTRO GEO P.zza S. Quirino, 6 - 42015 CORREGGIO	INDAGINE HVSR H21
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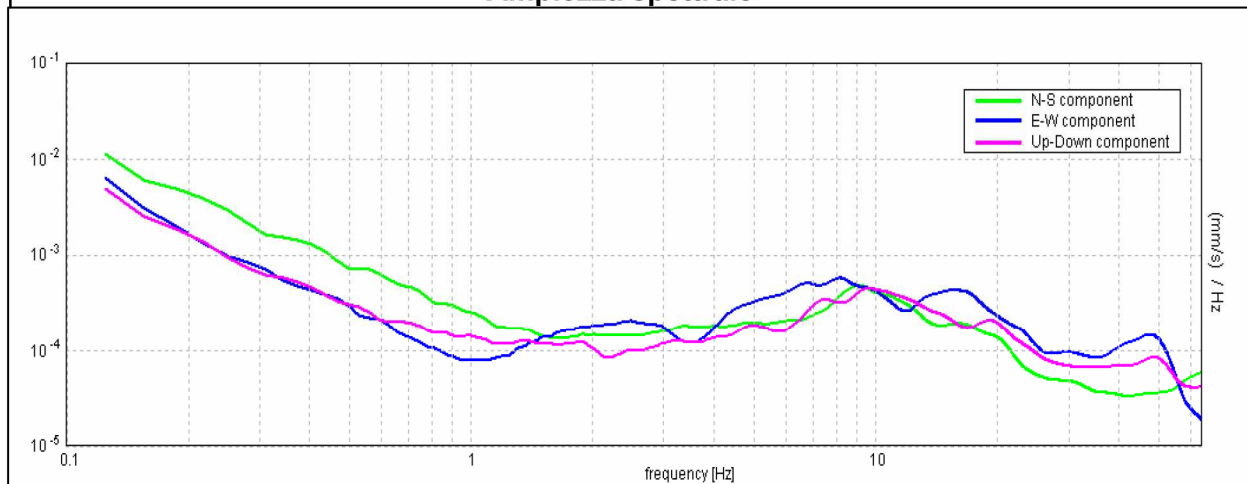
LOCALITA': Marzabotto (BO)	COMMITTENTE: Amm. Comunale
DATA: 16-10-2013	CANTIERE: Allocco di Sopra
QUOTA: 155 m. s.l.m.	OPERATORI: Mazzetti M. - Arbizzi A.

Strumentazione: Tromino TRZ-0134/01-11

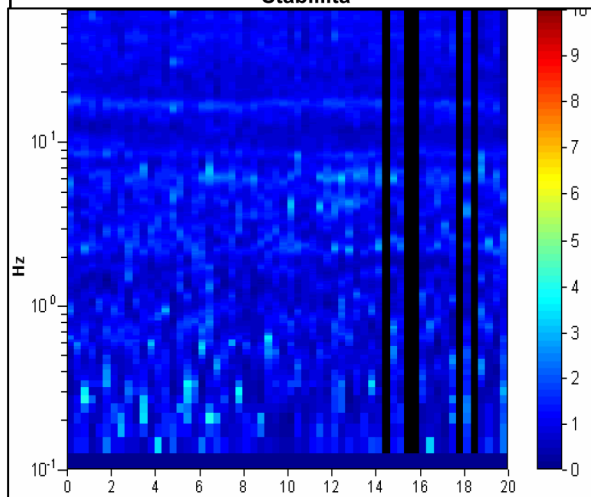
Rapporto spettrale



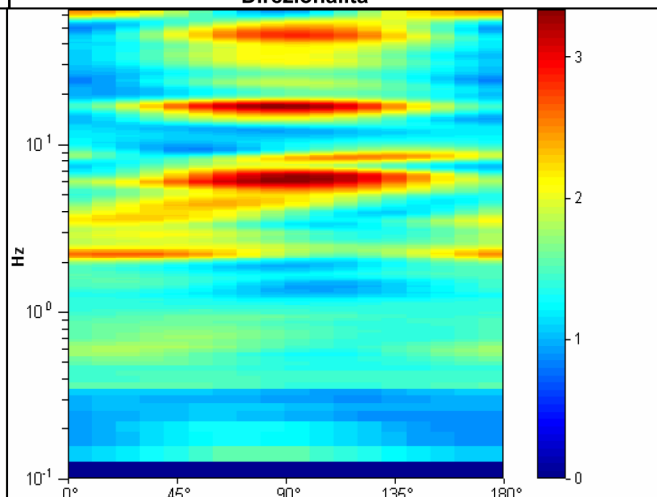
Ampiezza spettrale



Stabilità



Direzionalità



STUDIO GEOLOGICO CENTRO GEO
P.zza S. Quirino, 6 - 42015 CORREGGIO

INDAGINE HVSR H22

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 16-10-2013

CANTIERE: Allocco di Sopra

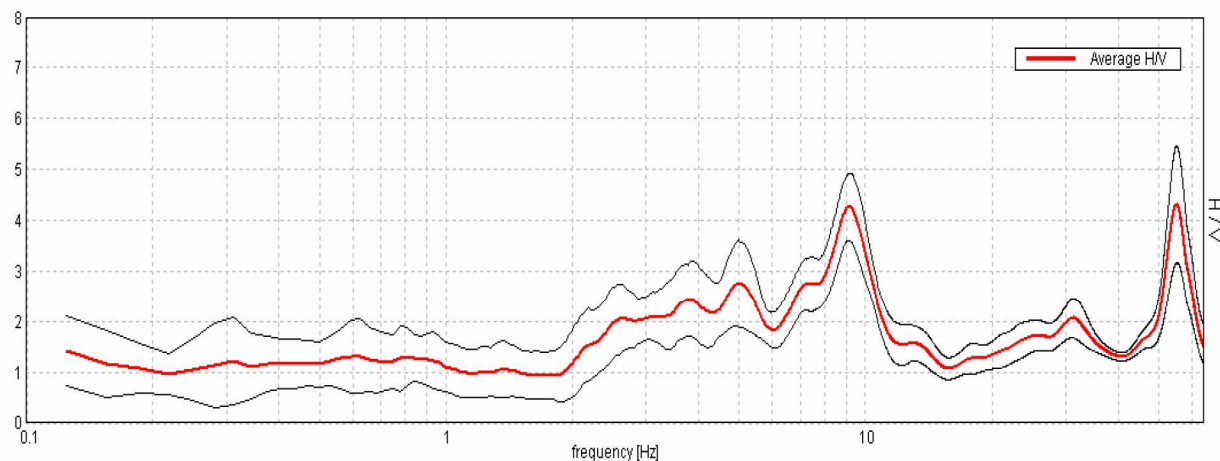
QUOTA: 140 m. s.l.m.

OPERATORI: Mazzetti M. - Arbizzi A.

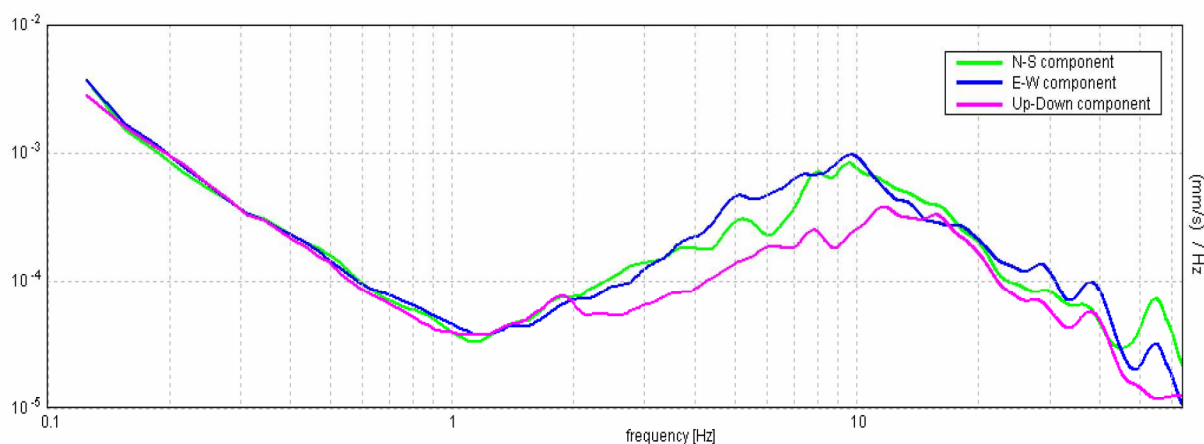
Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

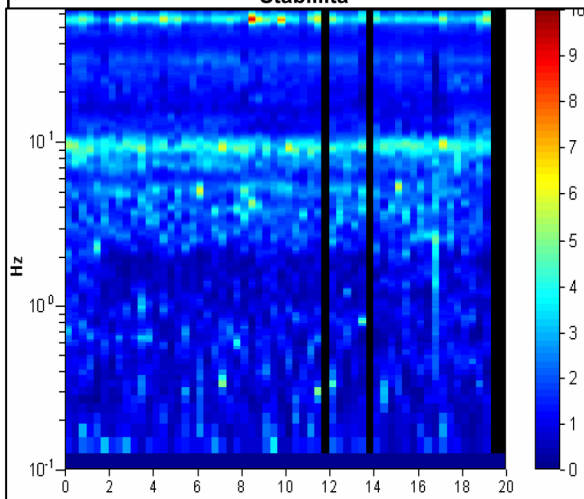
Picco H/V a 9.06 ± 0.1 Hz (nell'intervallo 0.0 - 18.0 Hz).



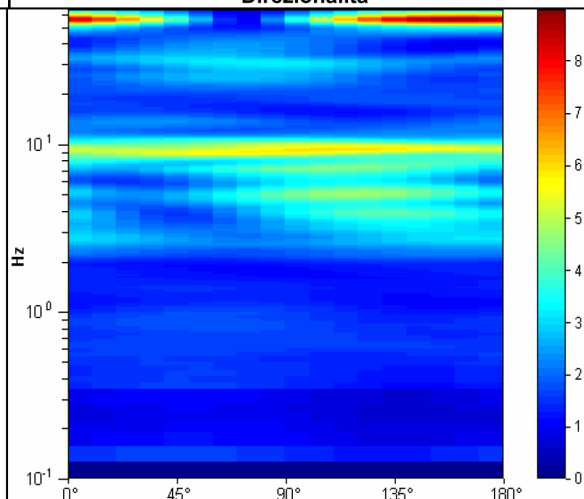
Ampiezza spettrale



Stabilità



Direzionalità



STUDIO GEOLOGICO CENTROGEO
P.zza S. Quirino, 6 - 42015 CORREGGIO

INDAGINE HVSR H23

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 16-10-2013

CANTIERE: Sirano

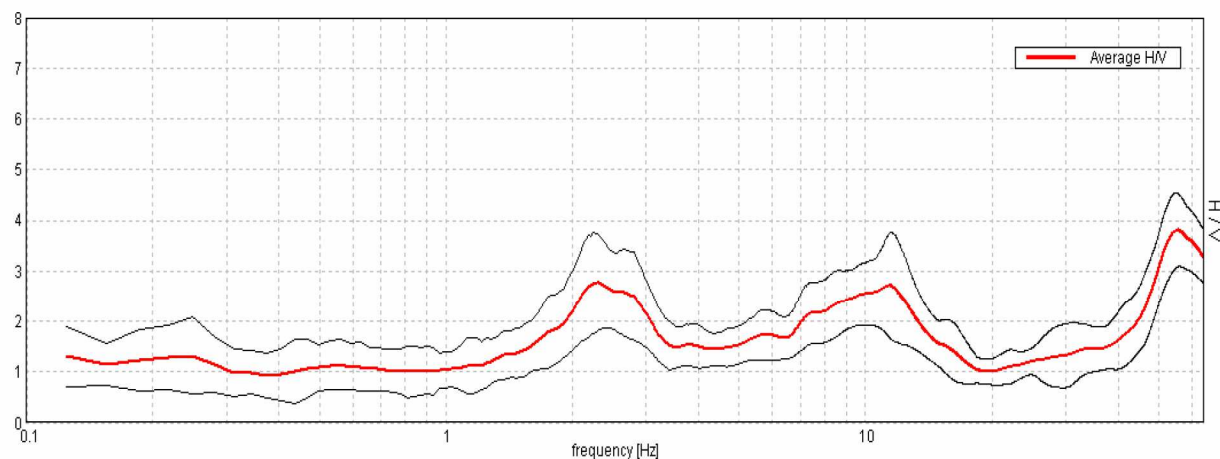
QUOTA: 143 m. s.l.m.

OPERATORI: Mazzetti M. - Arbizzi A.

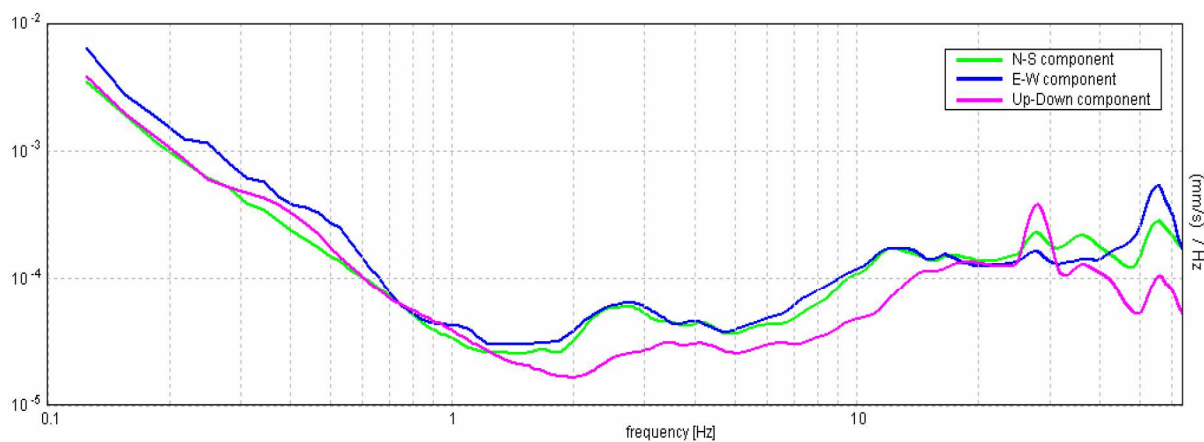
Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

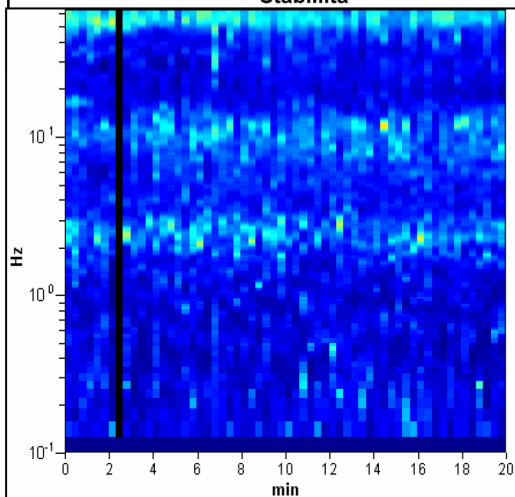
Picco H/V a 2.31 ± 2.6 Hz (nell'intervallo 0.0 - 18.0 Hz).



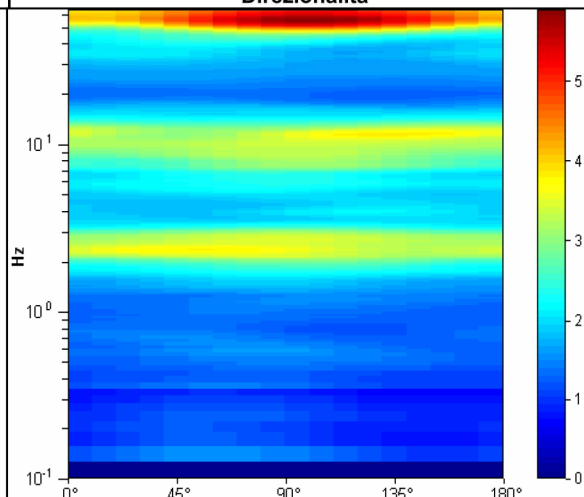
Ampiezza spettrale



Stabilità



Direzionalità



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P.zza S.Quirino, 6 - 42015 CORREGGIO

INDAGINE HVSR H24

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 16-10-2013

CANTIERE: Lama di Reno

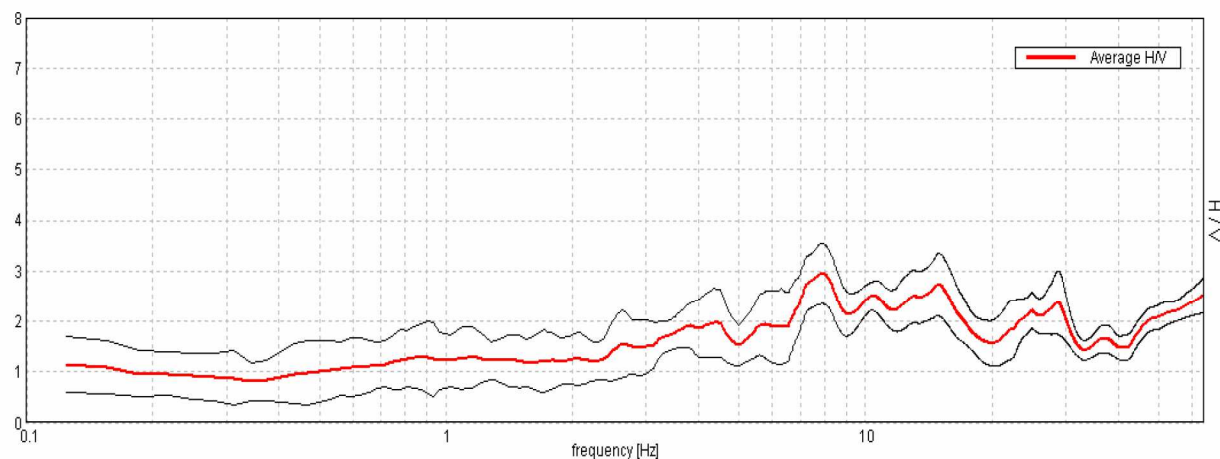
QUOTA: 110 m. s.l.m.

OPERATORI: Mazzetti M. - Arbizzi A.

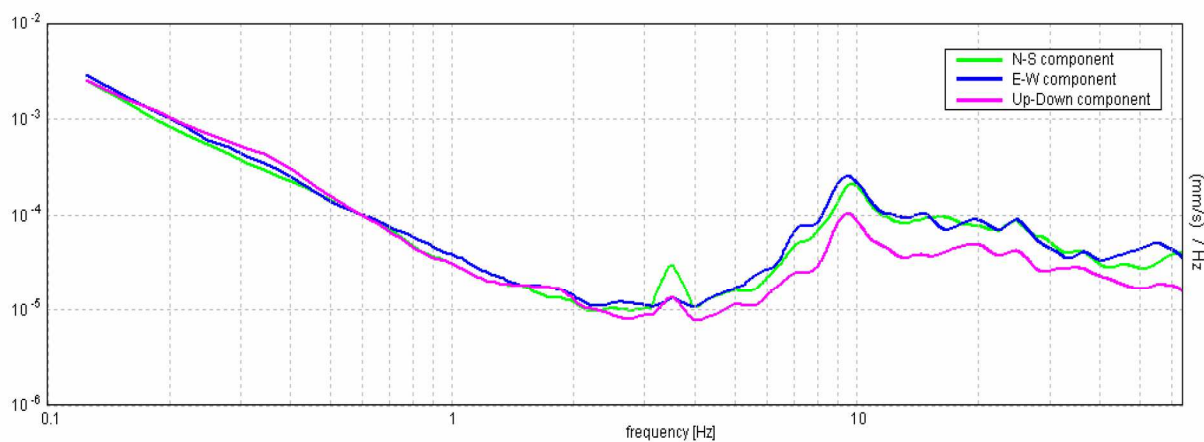
Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

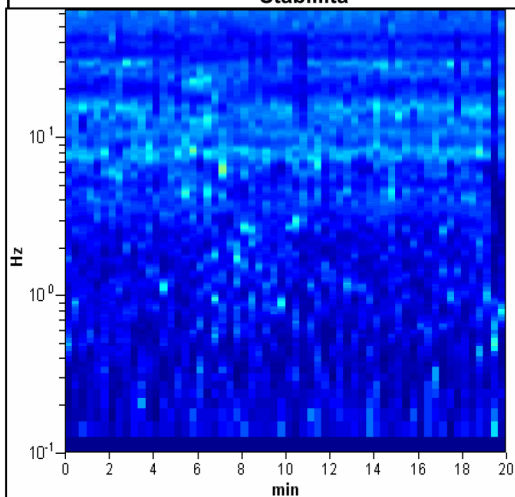
Picco H/V a 7.88 ± 3.22 Hz (nell'intervallo 0.0 - 18.0 Hz).



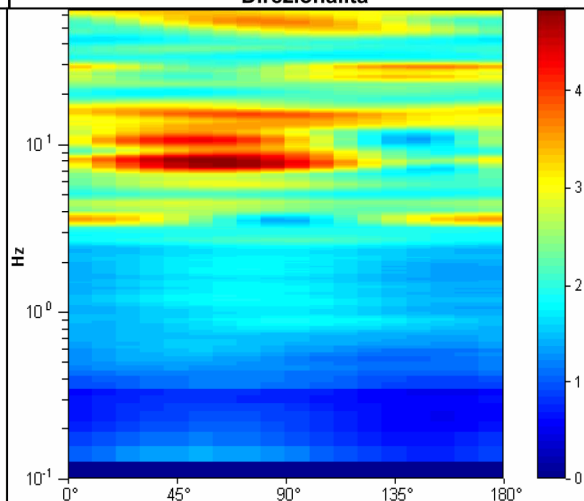
Ampiezza spettrale



Stabilità



Direzionalità



STUDIO GEOLOGICO CENTROGEO
P.zza S. Quirino, 6 - 42015 CORREGGIO

INDAGINE HVSR H25

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 16-10-2013

CANTIERE: Lama di Reno

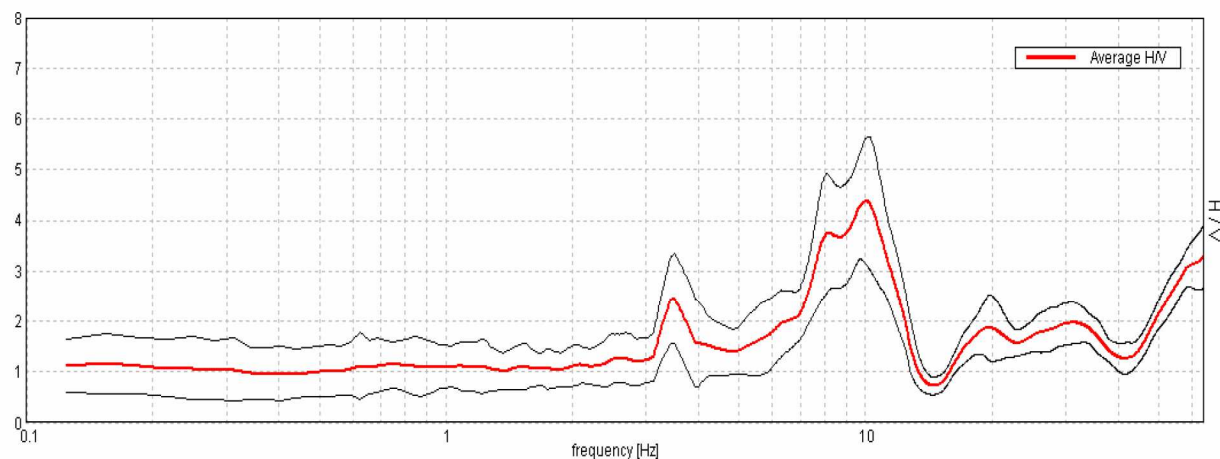
QUOTA: 110 m. s.l.m.

OPERATORI: Mazzetti M. - Arbizzi A.

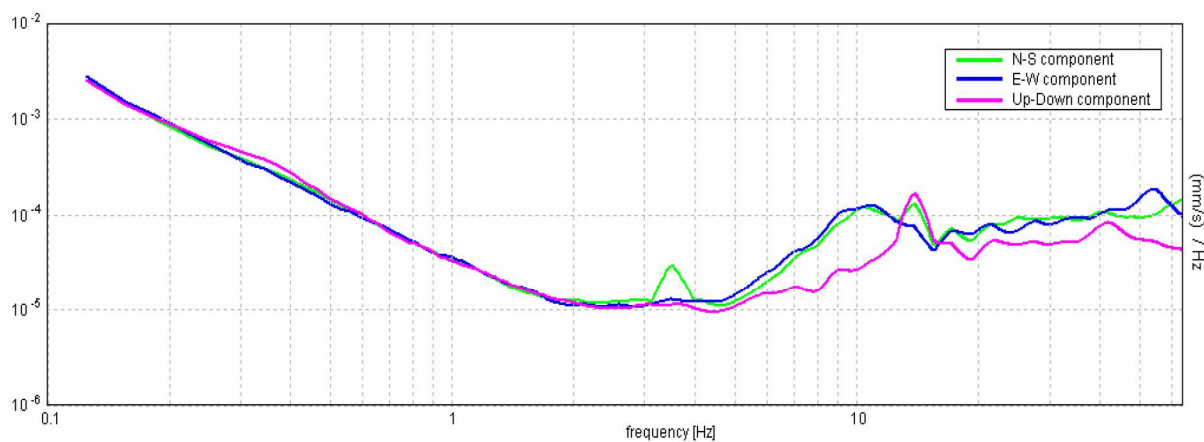
Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

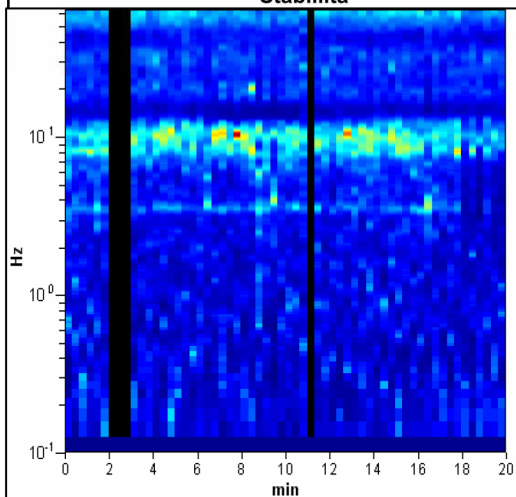
Picco H/V a 10.0 ± 0.79 Hz (nell'intervallo 0.0 - 18.0 Hz).



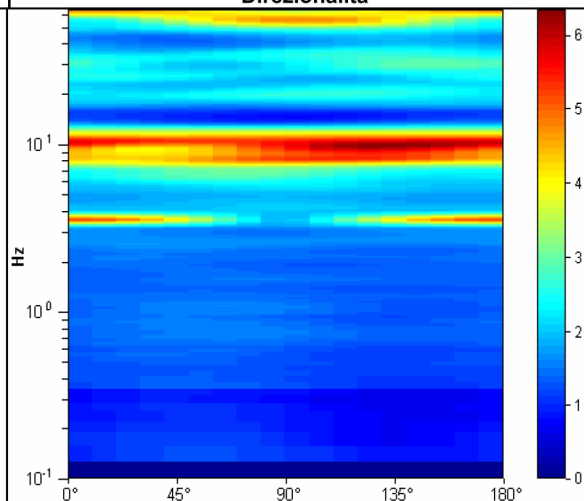
Ampiezza spettrale



Stabilità



Direzionalità



STUDIO GEOLOGICO CENTROGEO
P.zza S.Quirino, 6 - 42015 CORREGGIO

INDAGINE HVSR H26

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 16-10-2013

CANTIERE: Marzabotto

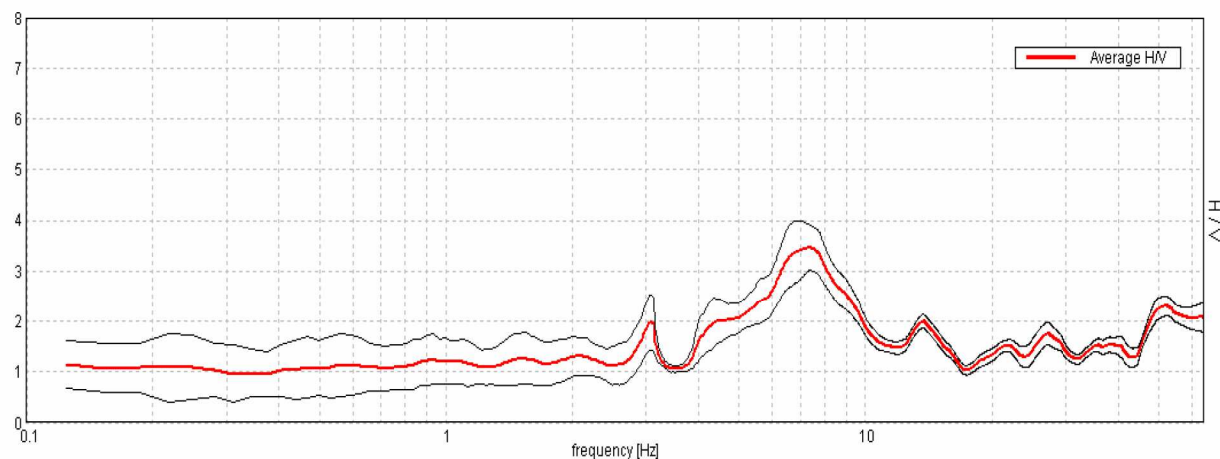
QUOTA: 120 m. s.l.m.

OPERATORI: Mazzetti M. - Arbizzi A.

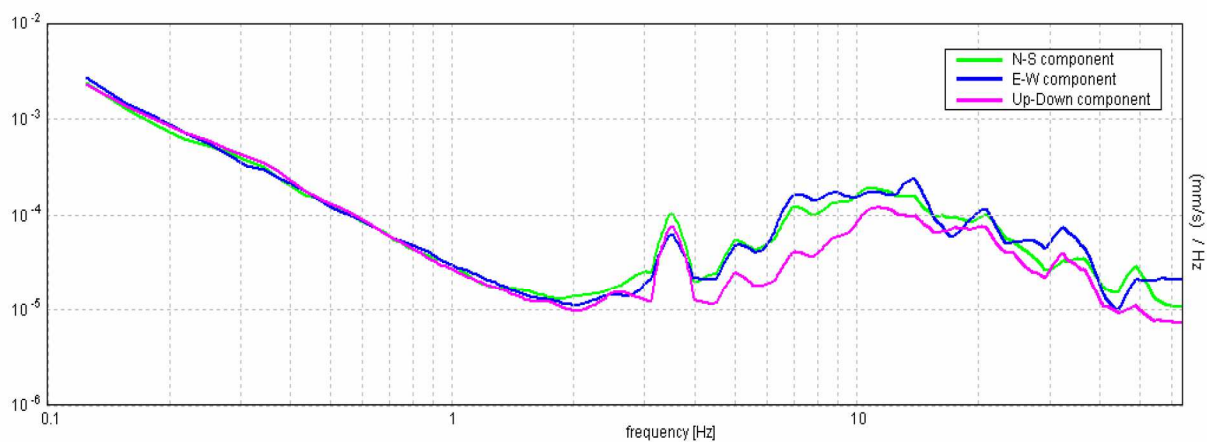
Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

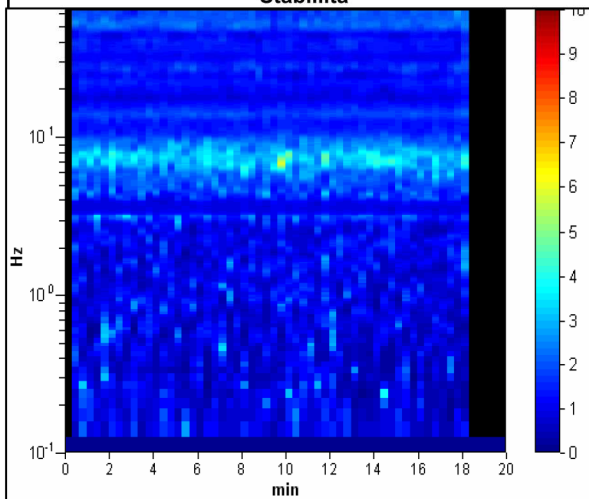
Picco H/V a 7.34 ± 0.13 Hz (nell'intervallo 0.0 - 18.0 Hz).



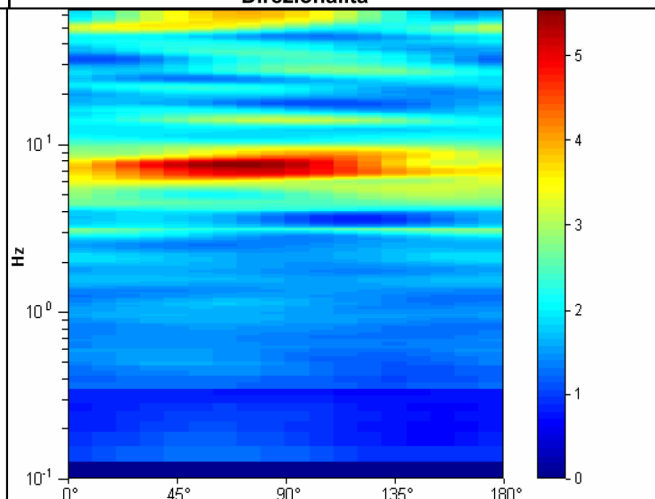
Ampiezza spettrale



Stabilità



Direzionalità

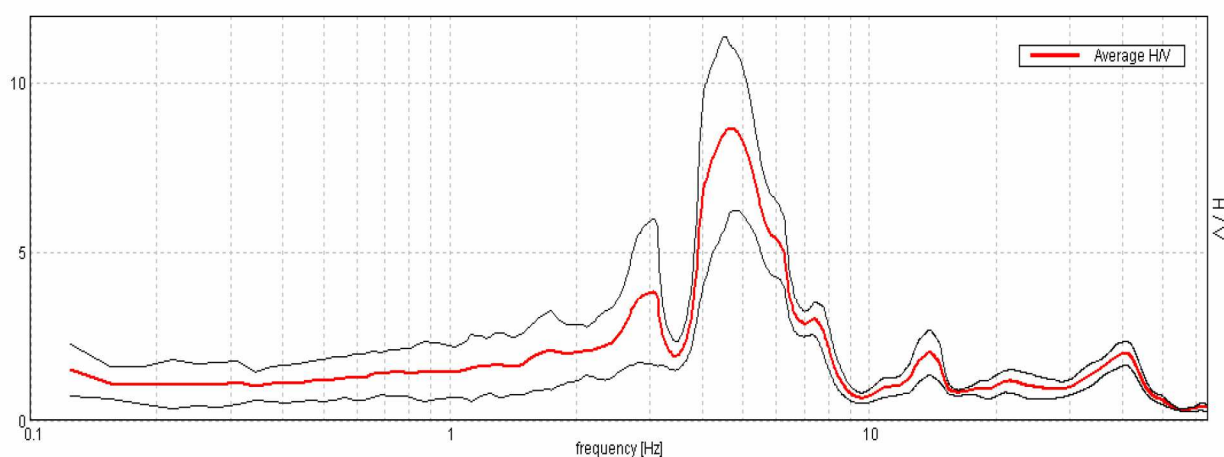


STUDIO GEOLOGICO CENTROGEO P.zza S.Quirino, 6 - 42015 CORREGGIO	INDAGINE HVSR H27
LOCALITA': Marzabotto (BO)	COMMITTENTE: Amm. Comunale
DATA: 16-10-2013	CANTIERE: Marzabotto
QUOTA: 130 m. s.l.m.	OPERATORI: Mazzetti M. - Arbizzi A.

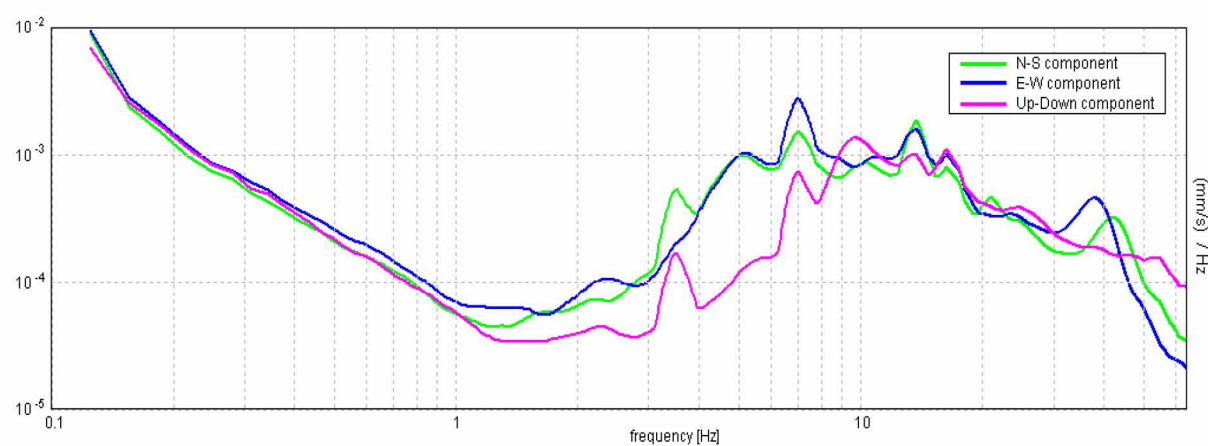
Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

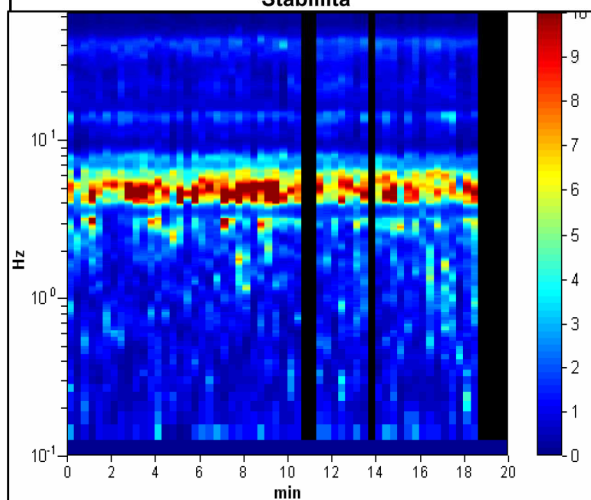
Picco H/V a 4.69 ± 0.16 Hz (nell'intervallo 0.0 - 18.0 Hz).



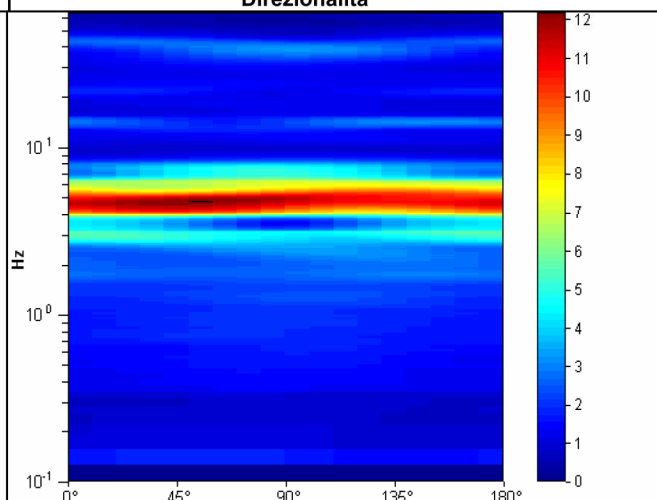
Ampiezza spettrale



Stabilità



Direzionalità



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P.zza S.Quirino, 6 - 42015 CORREGGIO

INDAGINE HVSR H28

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 16-10-2013

CANTIERE: Marzabotto

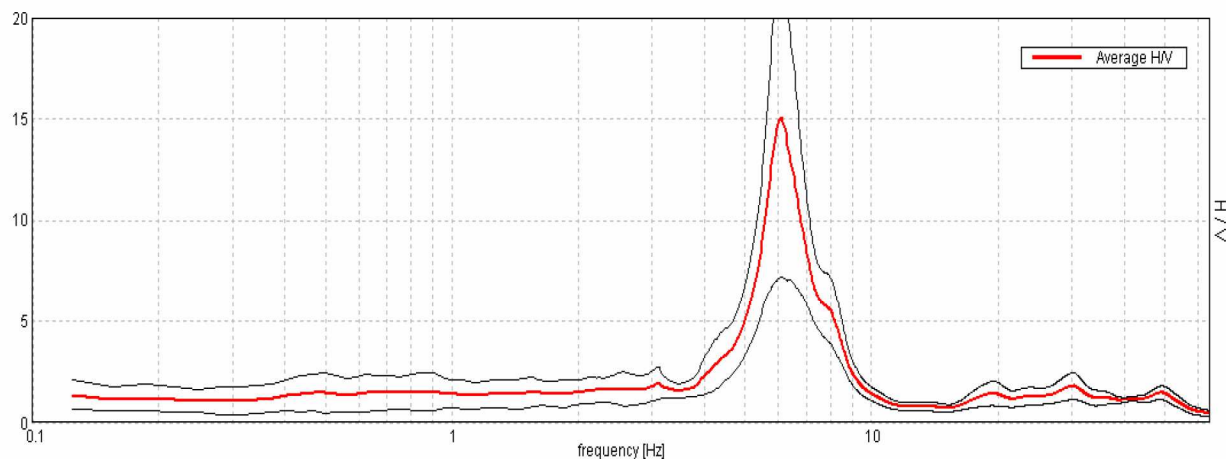
QUOTA: 130 m. s.l.m.

OPERATORI: Mazzetti M. - Arbizzi A.

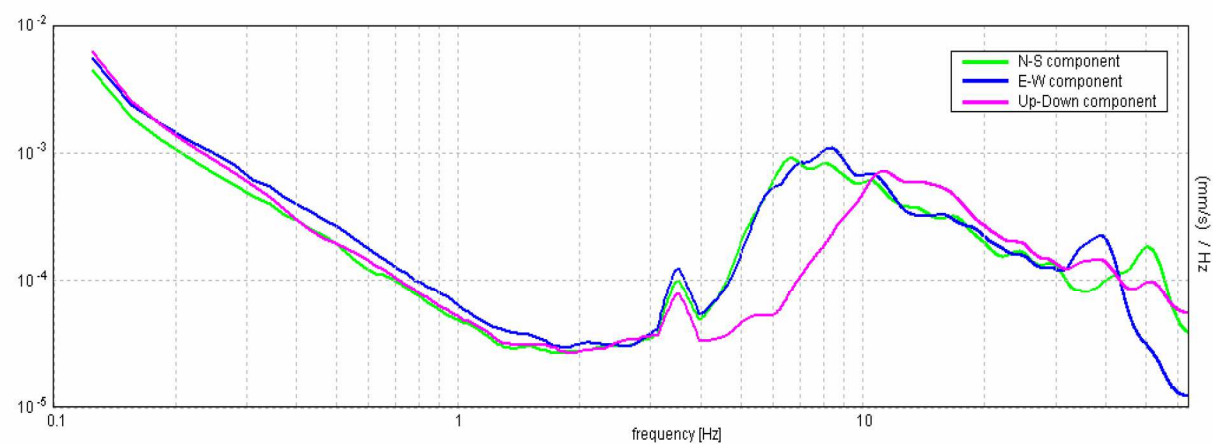
Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

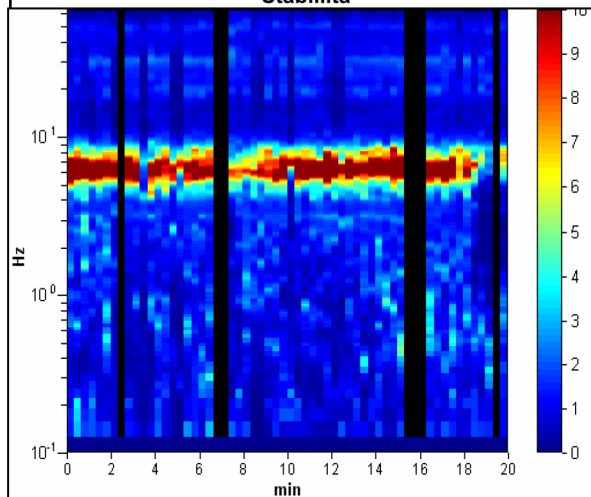
Picco H/V a 6.09 ± 0.04 Hz (nell'intervallo 0.0 - 18.0 Hz).



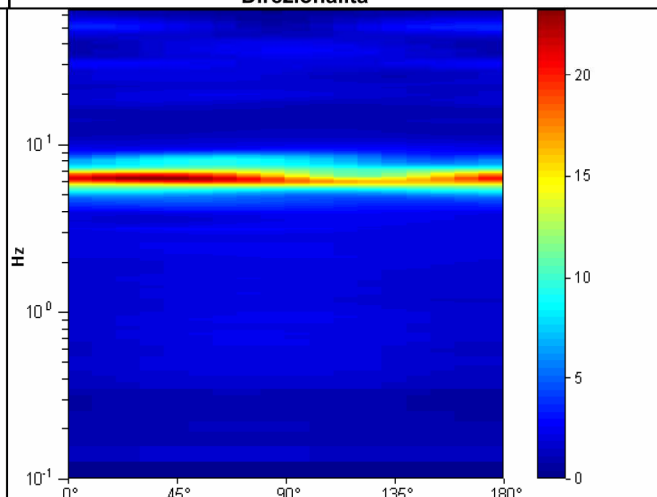
Ampiezza spettrale



Stabilità



Direzionalità



STUDIO GEOLOGICO CENTROGEO
P.zza S.Quirino, 6 - 42015 CORREGGIO

INDAGINE HVSR H29

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 16-10-2013

CANTIERE: Marzabotto

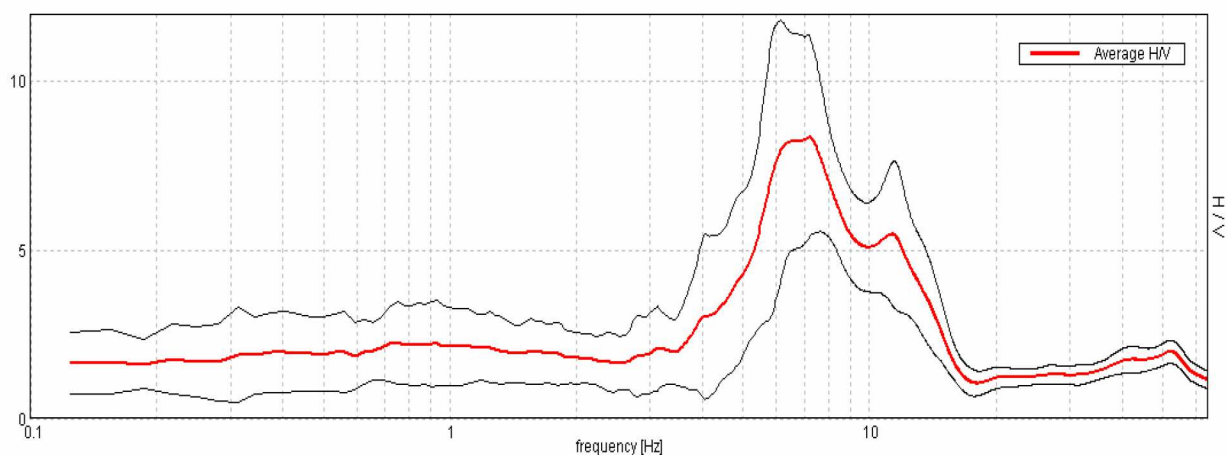
QUOTA: 130 m. s.l.m.

OPERATORI: Mazzetti M. - Arbizzi A.

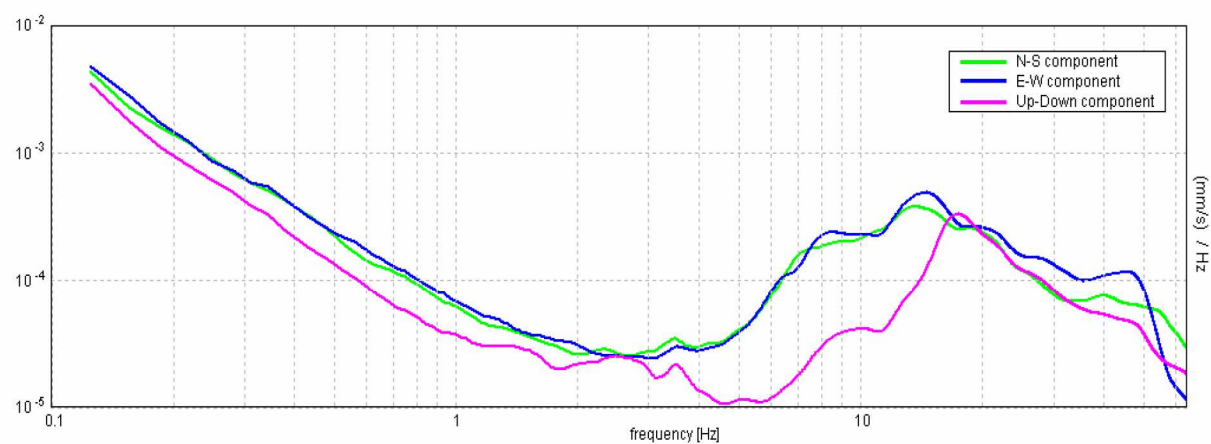
Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

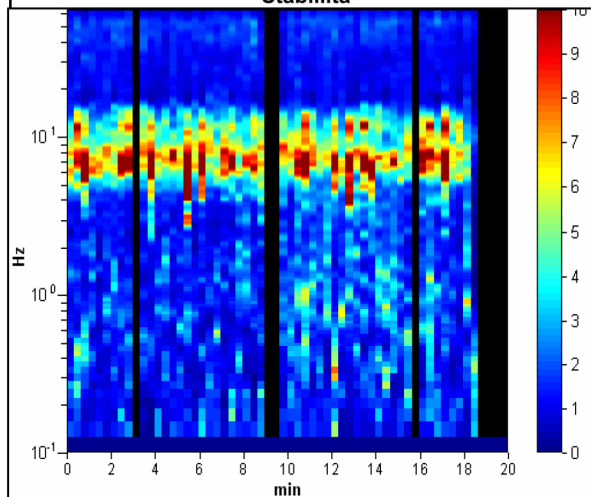
Picco H/V a 7.19 ± 0.81 Hz (nell'intervallo 0.0 - 18.0 Hz).



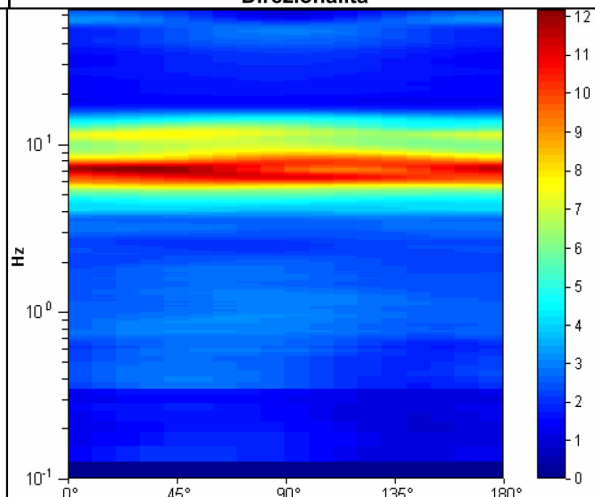
Ampiezza spettrale



Stabilità



Direzionalità



STUDIO GEOLOGICO CENTRO GEO
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INDAGINE HVSR H30

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 16-10-2013

CANTIERE: Marzabotto

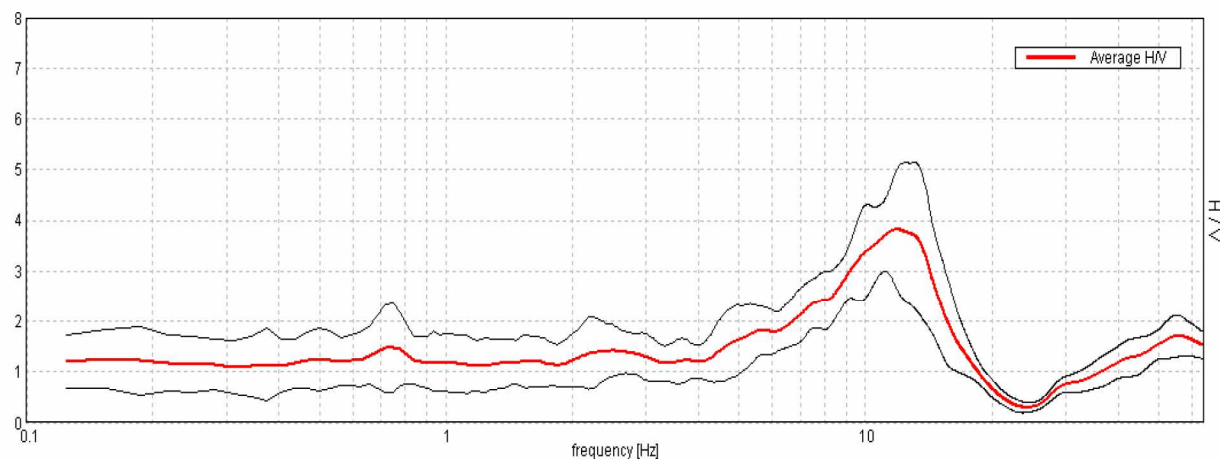
QUOTA: 125 m. s.l.m.

OPERATORI: Mazzetti M. - Arbizzi A.

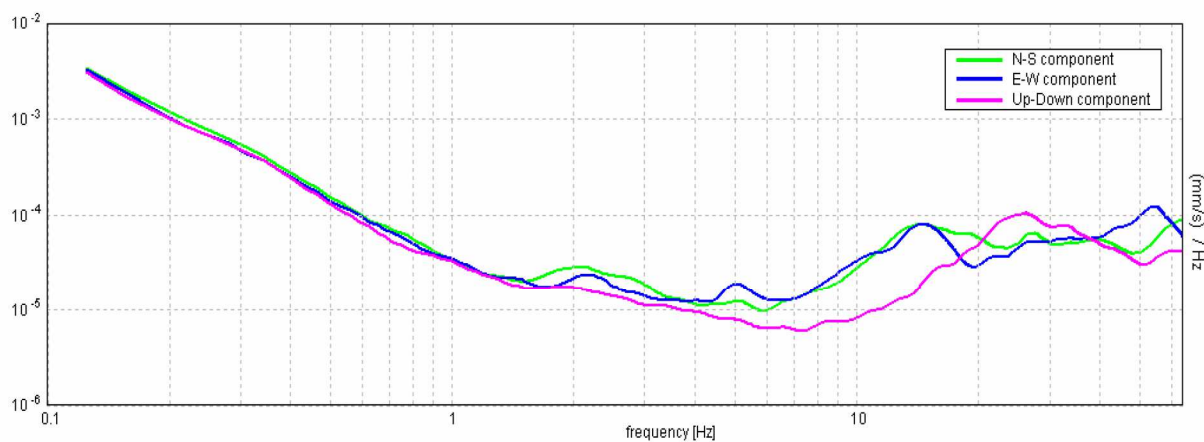
Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

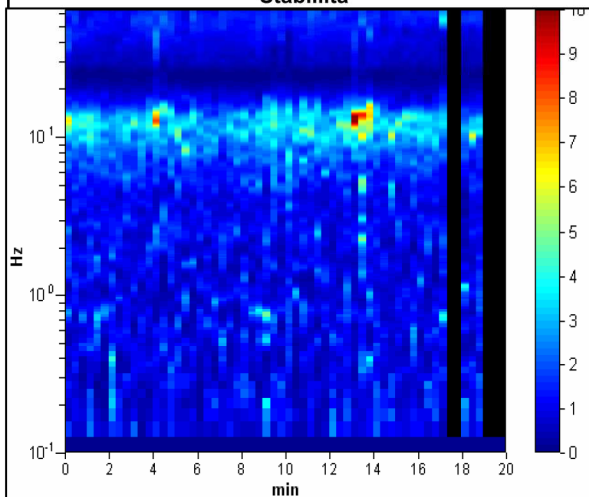
Picco HV a 11.78 ± 0.21 Hz (nell'intervallo 0.0 - 18.0 Hz).



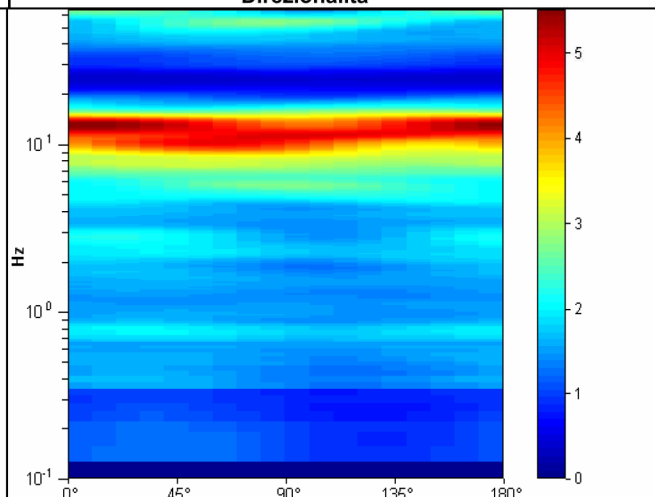
Ampiezza spettrale



Stabilità



Direzionalità



STUDIO GEOLOGICO CENTROGEO
P.zza S.Quirino, 6 - 42015 CORREGGIO

INDAGINE HVSR H31

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 16-10-2013

CANTIERE: Pian di Venola

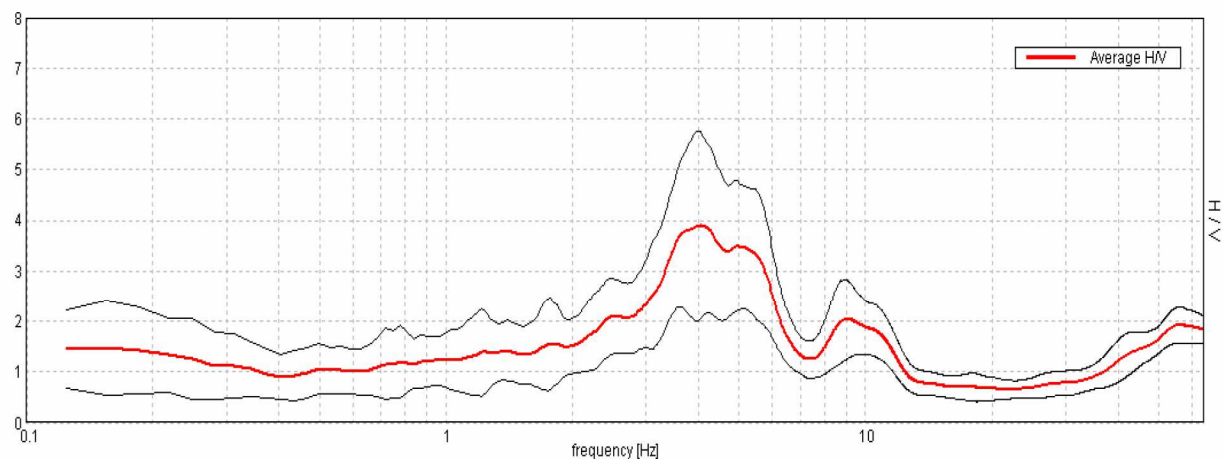
QUOTA: 155 m. s.l.m.

OPERATORI: Mazzetti M. - Arbizzi A.

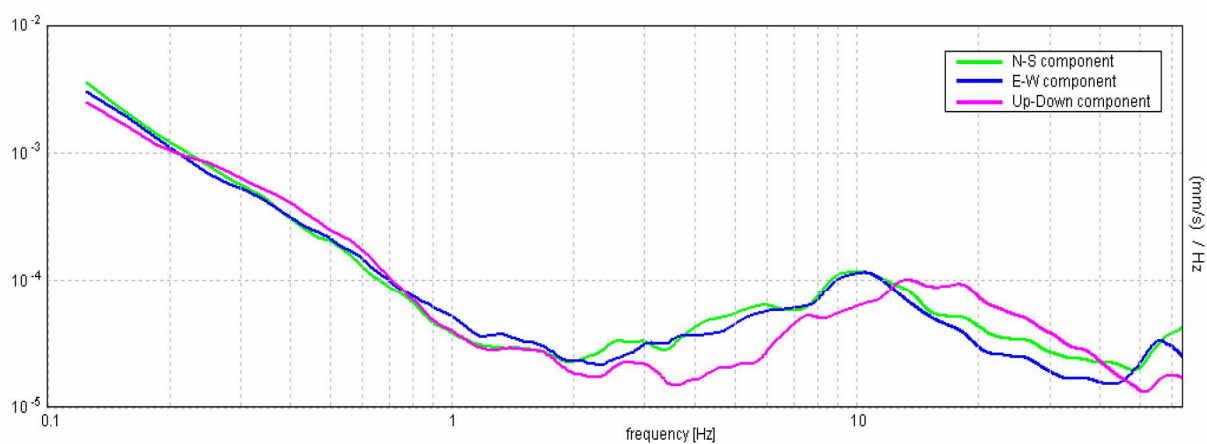
Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

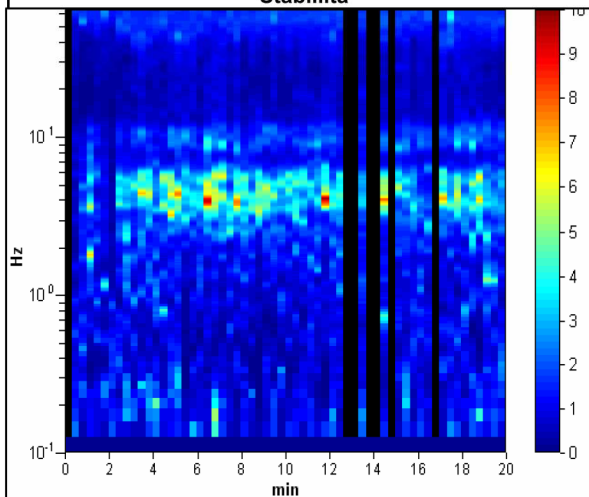
Picco HV a 4.06 ± 0.79 Hz (nell'intervallo 0.0 - 18.0 Hz).



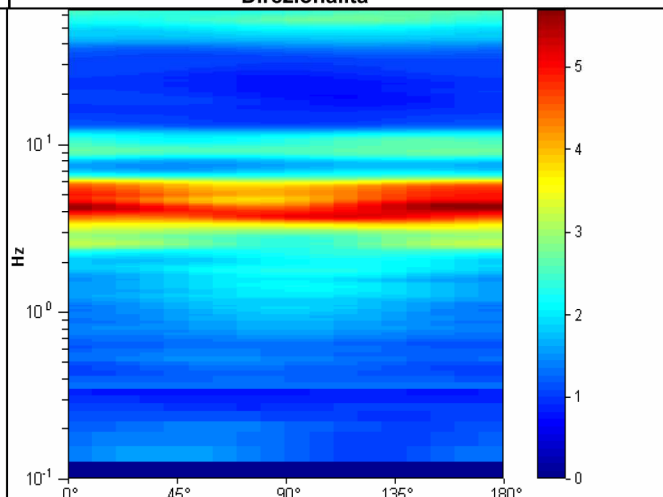
Ampiezza spettrale



Stabilità



Direzionalità



STUDIO GEOLOGICO CENTROGEO
P.zza S. Quirino, 6 - 42015 CORREGGIO

INDAGINE HVSR H32

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 16-10-2013

CANTIERE: Sibano

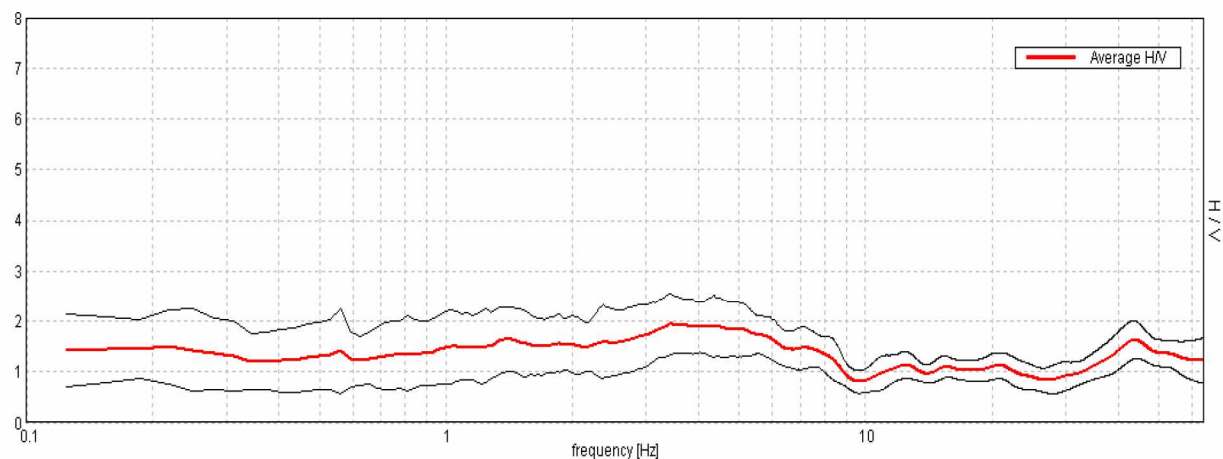
QUOTA: 155 m. s.l.m.

OPERATORI: Mazzetti M. - Arbizzi A.

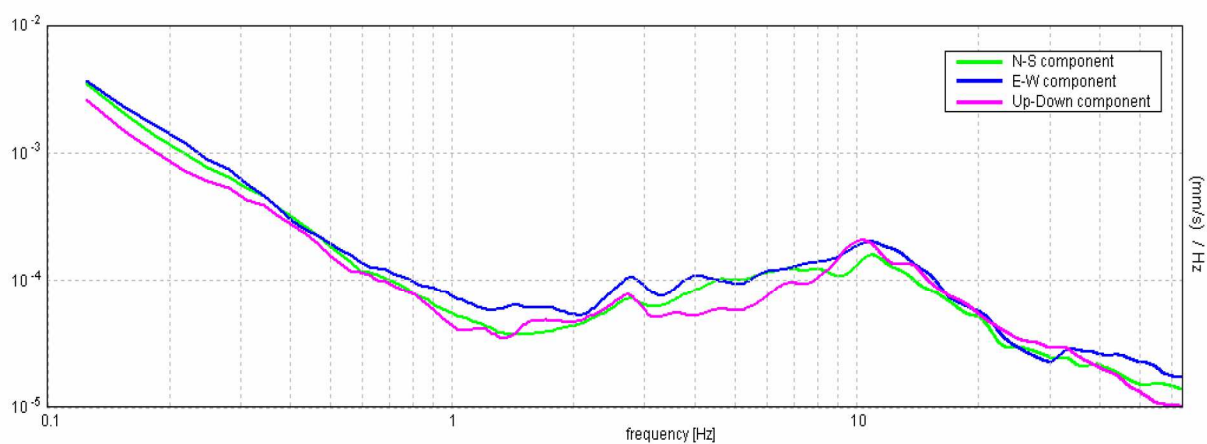
Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

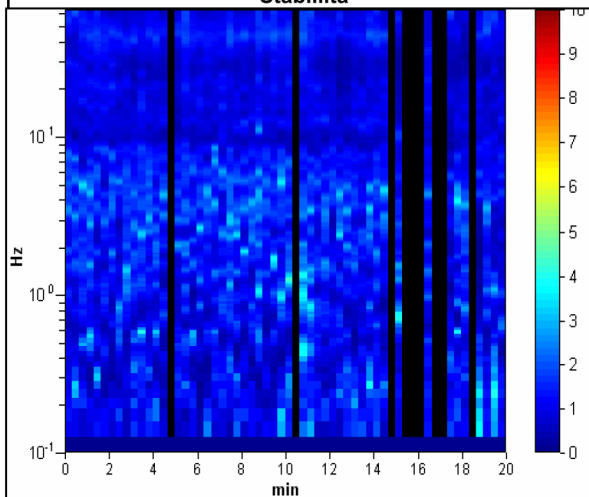
Picco H/V a 3.44 ± 0.84 Hz (nell'intervallo 0.0 - 18.0 Hz).



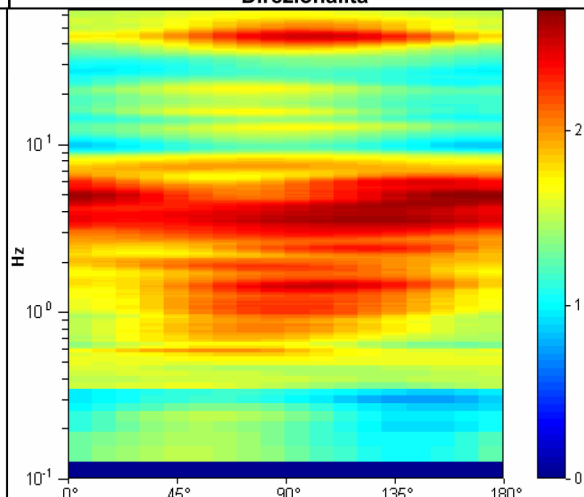
Ampiezza spettrale



Stabilità



Direzionalità



STUDIO GEOLOGICO CENTROGEO
P.zza S.Quirino, 6 - 42015 CORREGGIO

INDAGINE HVSR H33

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 19-12-2013

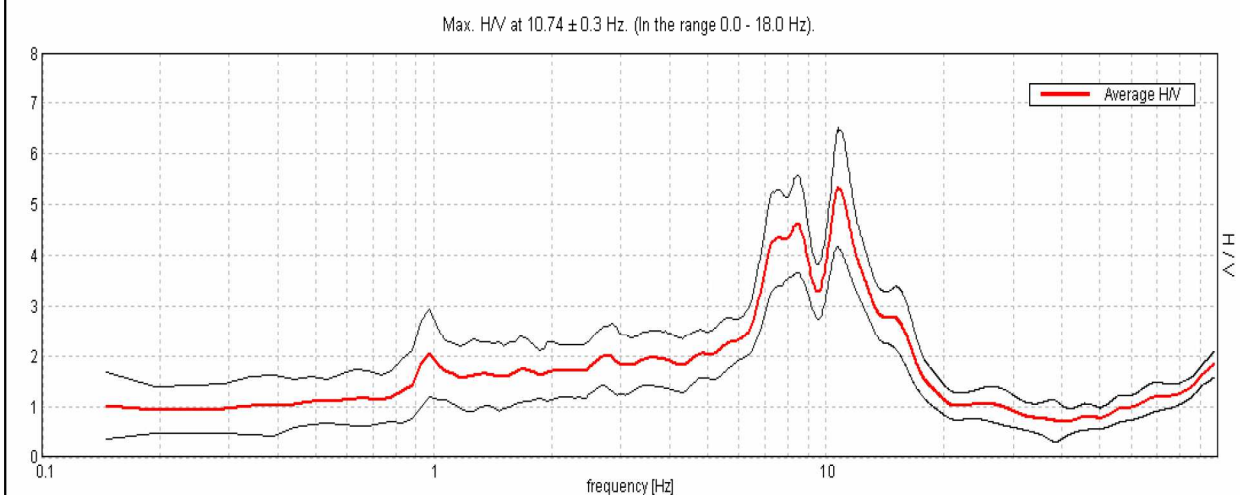
CANTIERE: Capoluogo

QUOTA: 178 m. s.l.m.

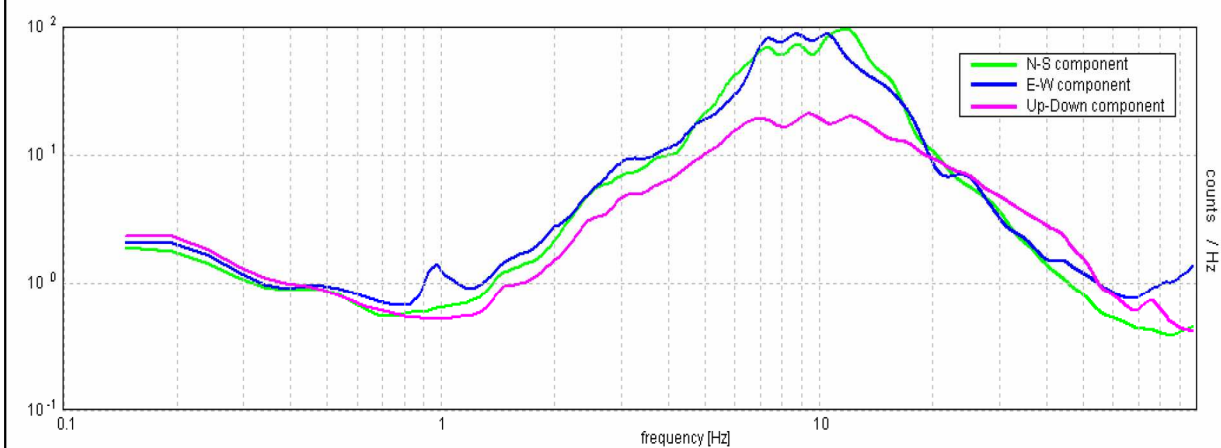
OPERATORI: Arbizzi A.

Strumentazione: Sara SR04 HS - 4,5 Hz - matricola N488

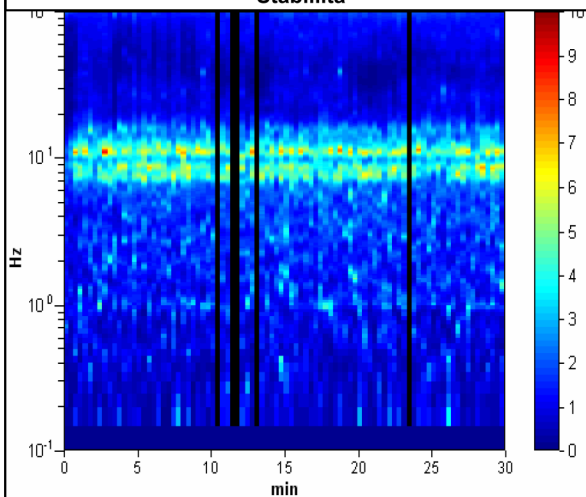
Rapporto spettrale



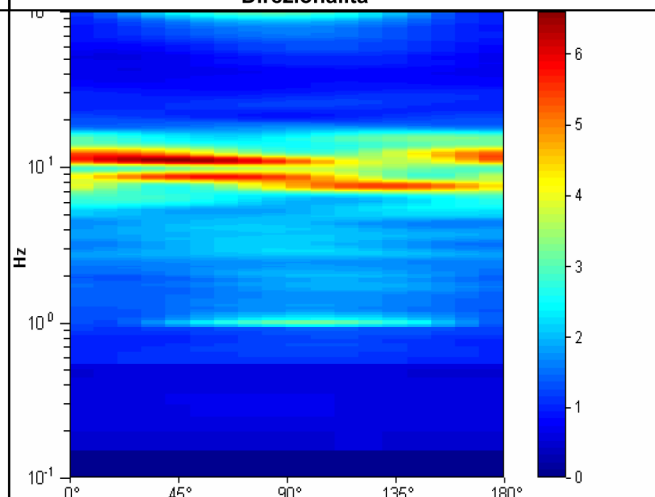
Ampiezza spettrale

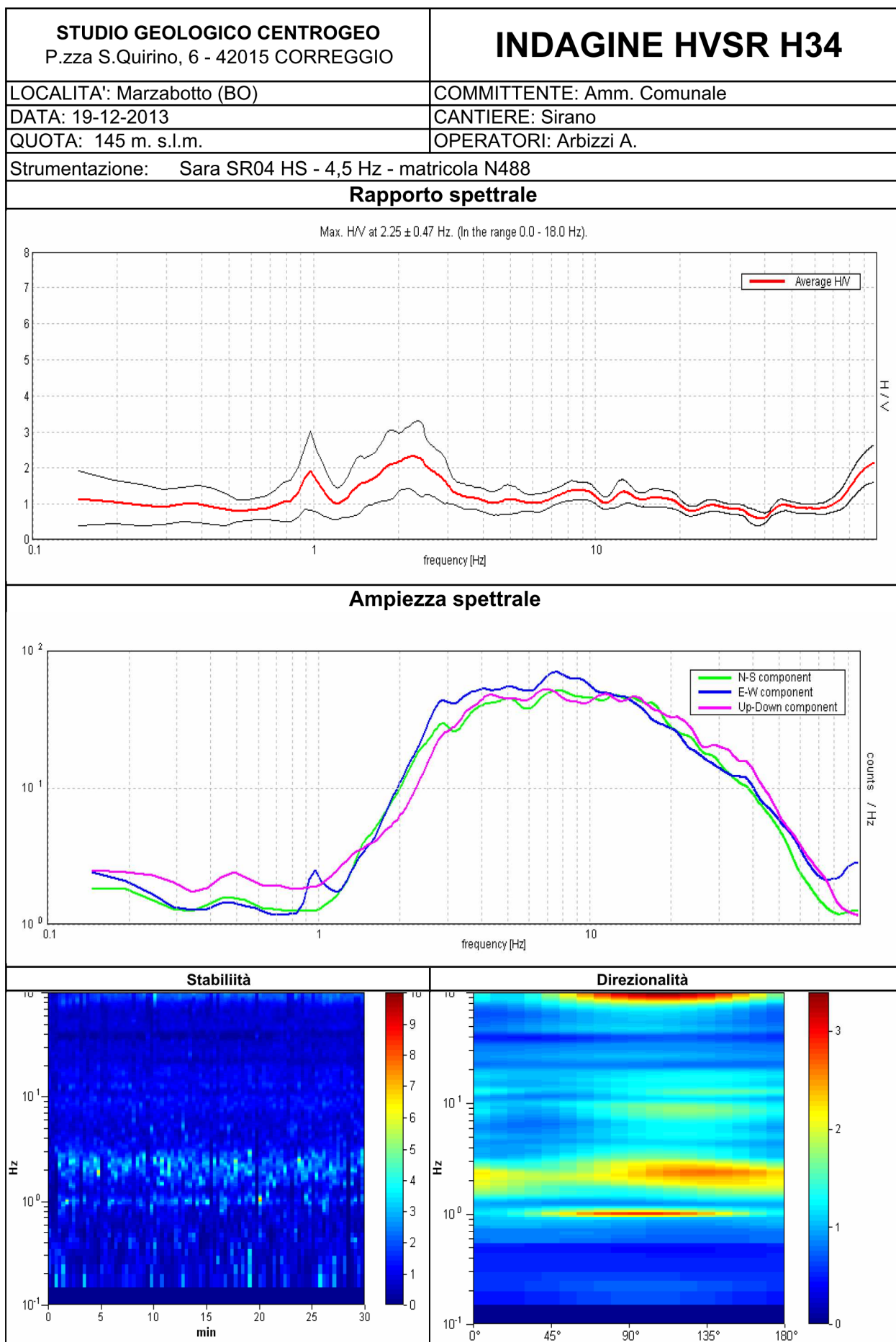


Stabilità



Direzionalità





STUDIO GEOLOGICO CENTROGEO
P.zza S.Quirino, 6 - 42015 CORREGGIO

INDAGINE HVSR H35

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 19-12-2013

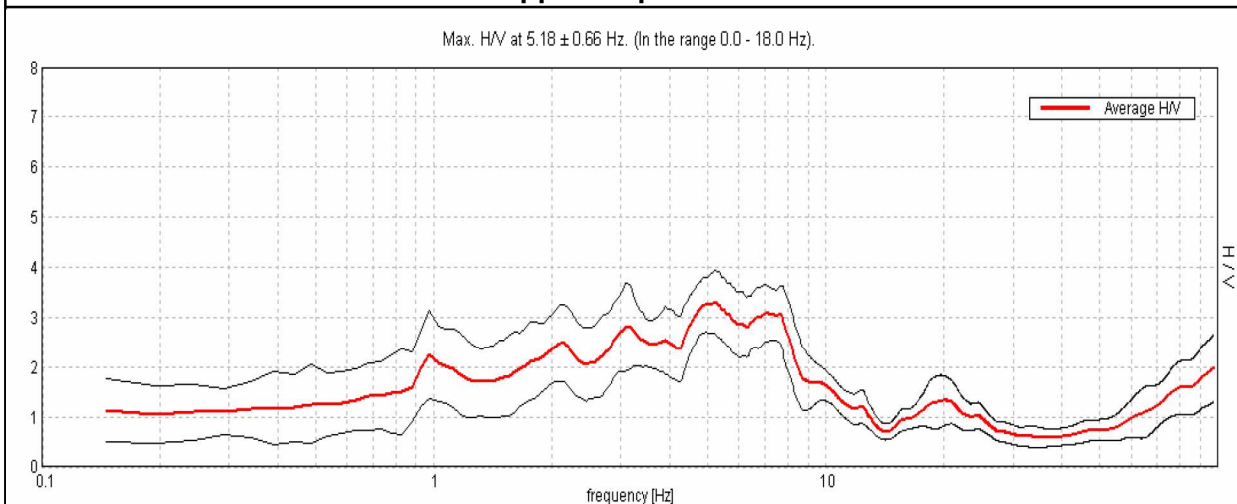
CANTIERE: Panico

QUOTA: 158 m. s.l.m.

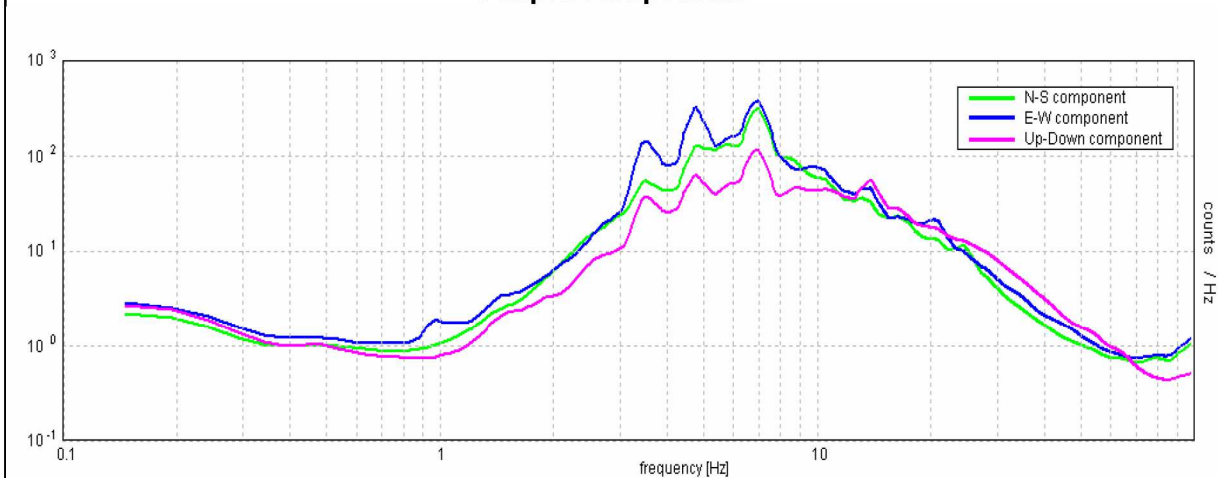
OPERATORI: Arbizzi A.

Strumentazione: Sara SR04 HS - 4,5 Hz - matricola N488

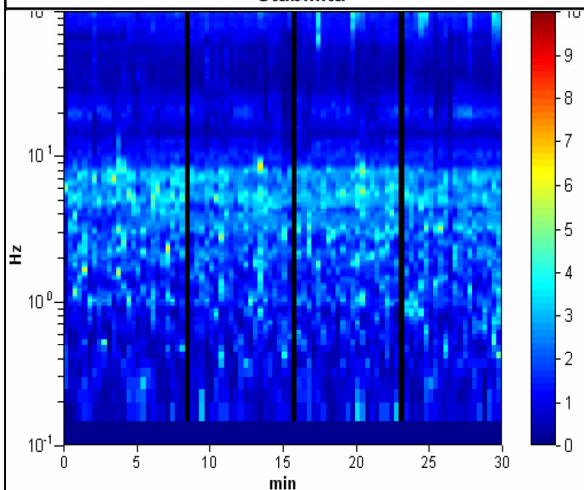
Rapporto spettrale



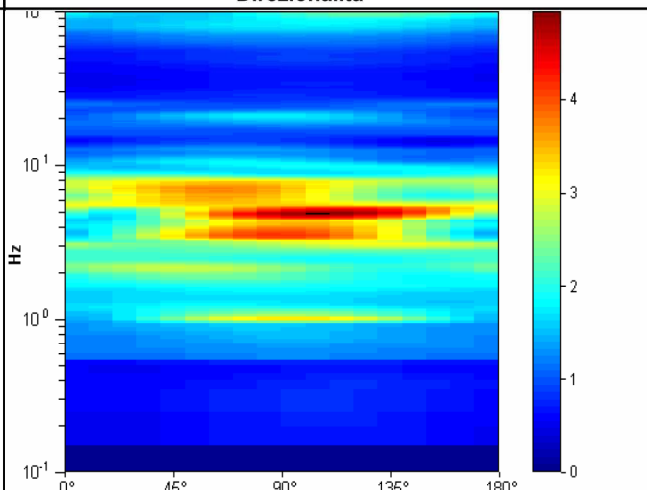
Ampiezza spettrale



Stabilità



Direzionalità

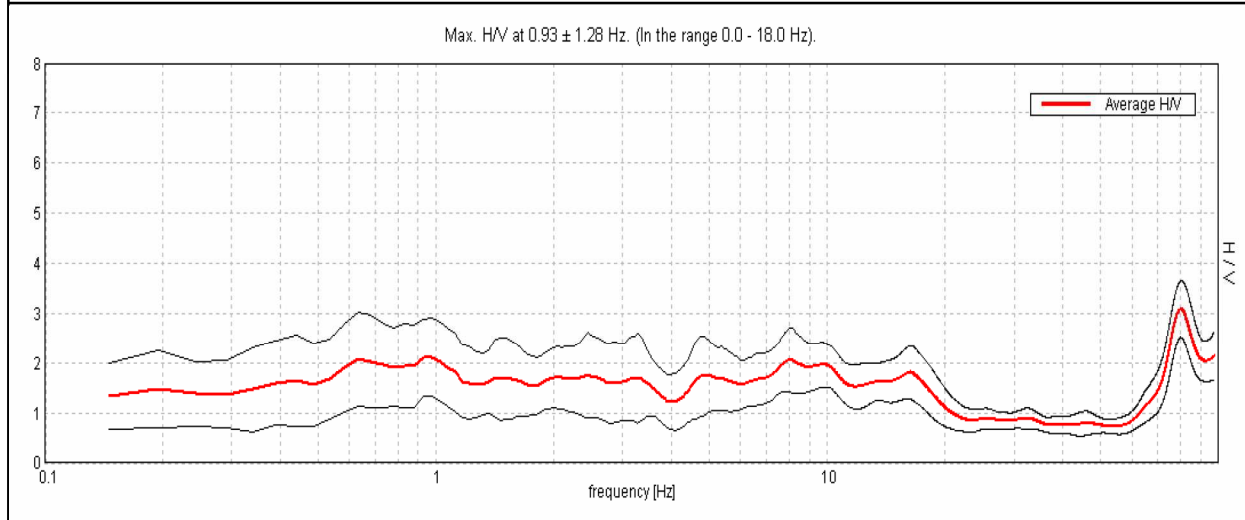


STUDIO GEOLOGICO CENTRO GEO P.zza S. Quirino, 6 - 42015 CORREGGIO	INDAGINE HVSR H36
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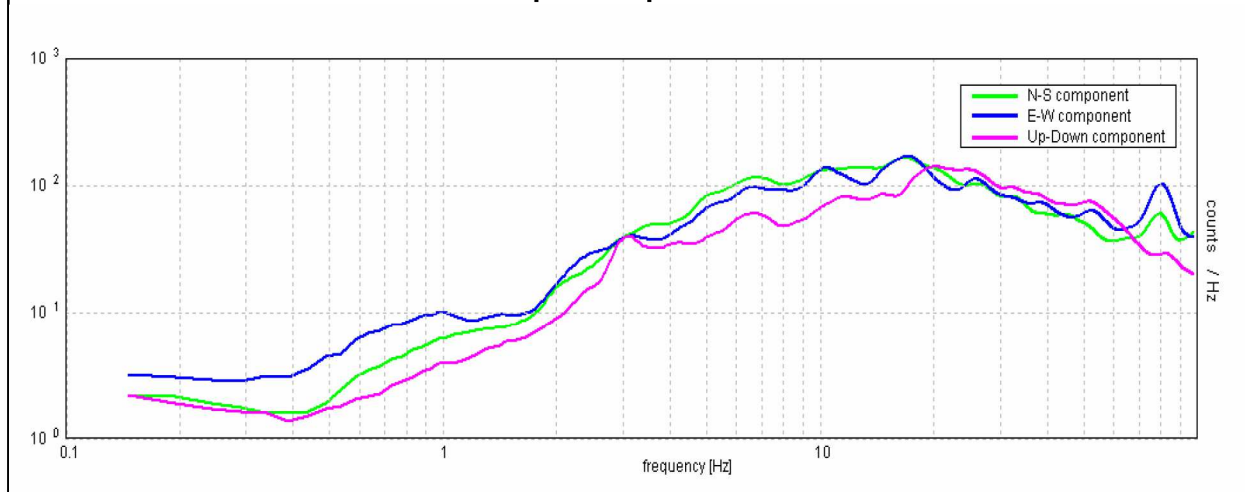
LOCALITA': Marzabotto (BO)	COMMITTENTE: Amm. Comunale
DATA: 18-12-2013	CANTIERE: Pioppe di Salvaro
QUOTA: 168 m. s.l.m.	OPERATORI: Arbizzi A.

Strumentazione: Sara SR04 HS - 4,5 Hz - matricola N488

Rapporto spettrale

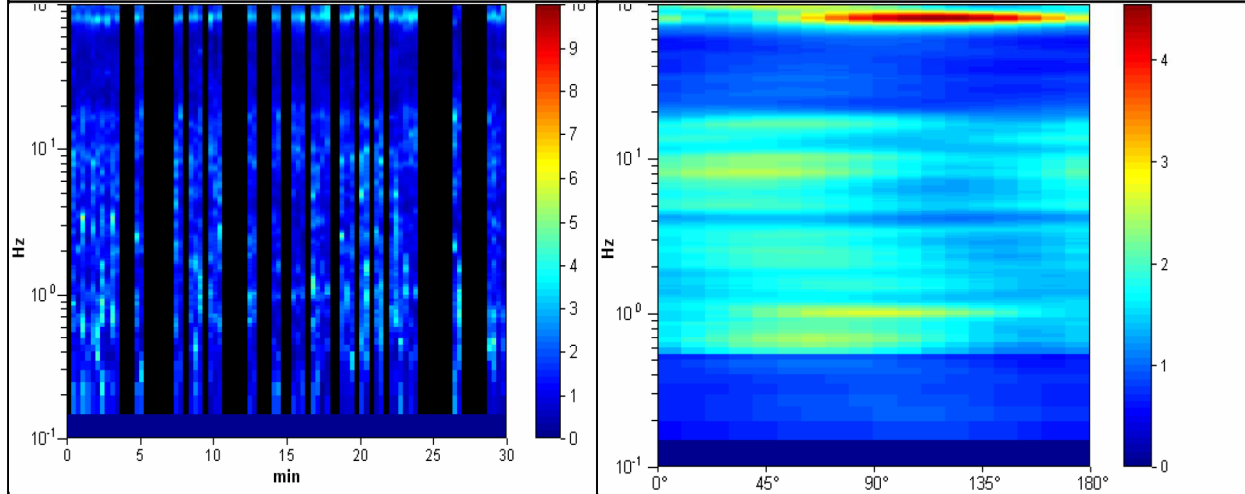


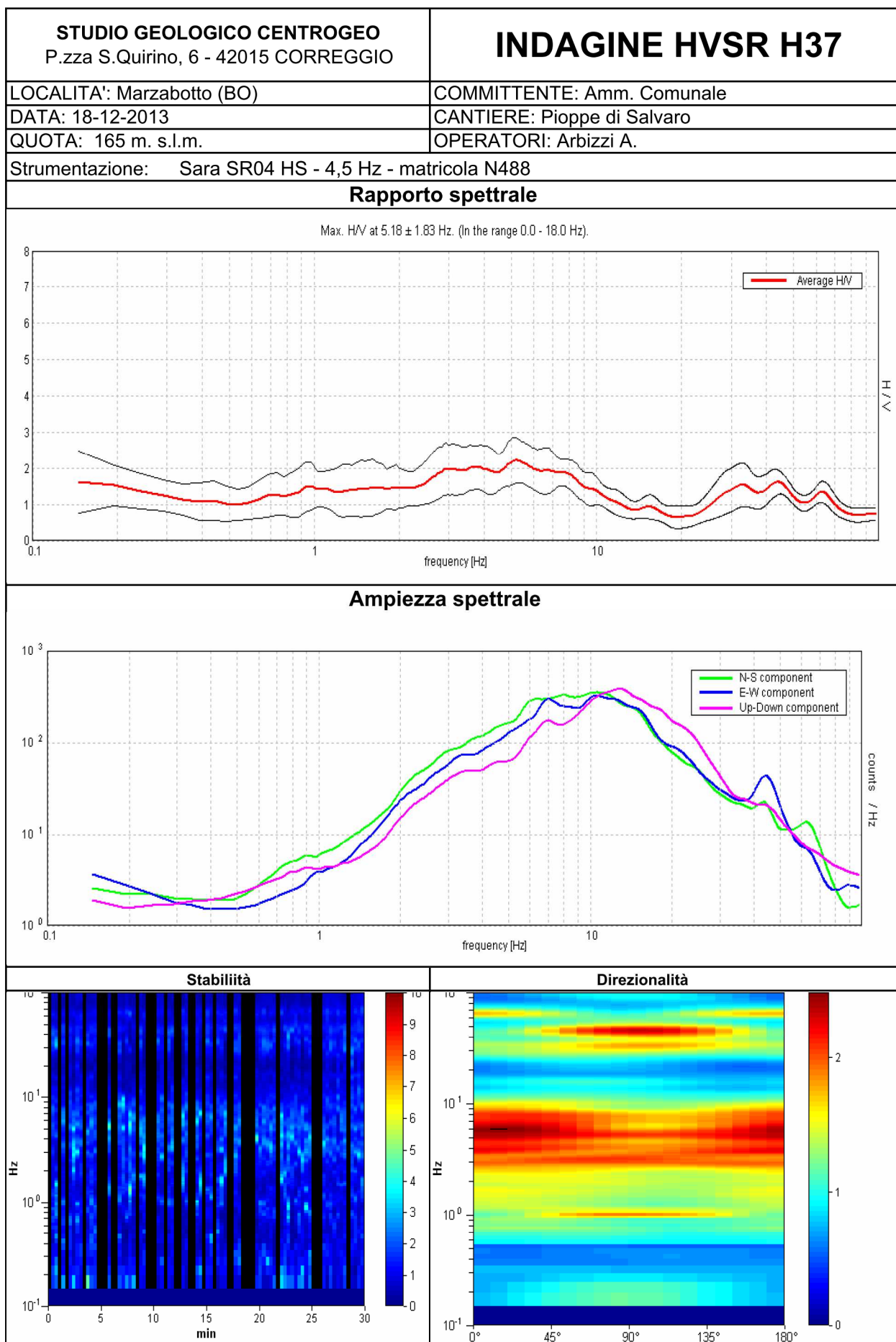
Ampiezza spettrale

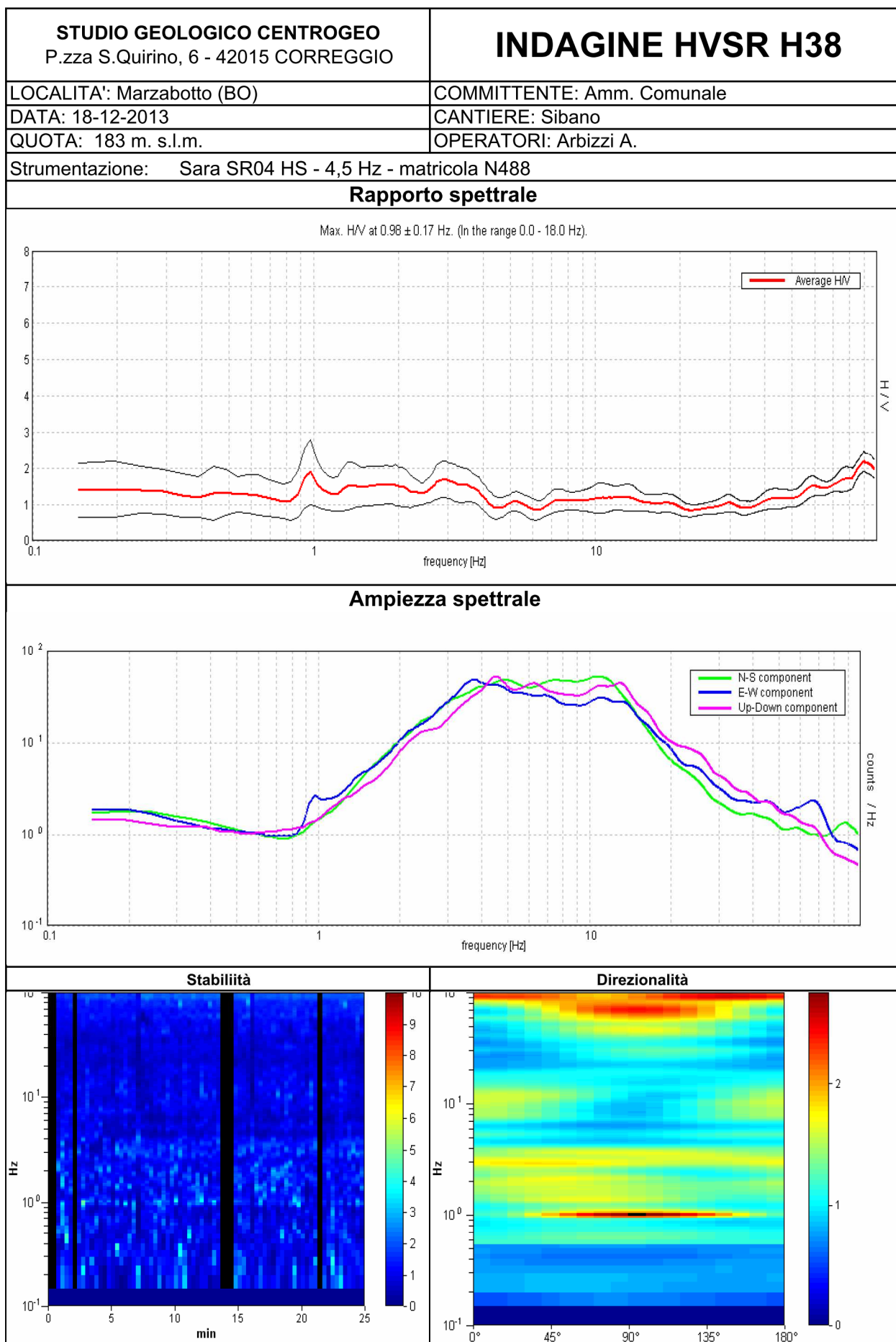


Stabilità

Direzionalità





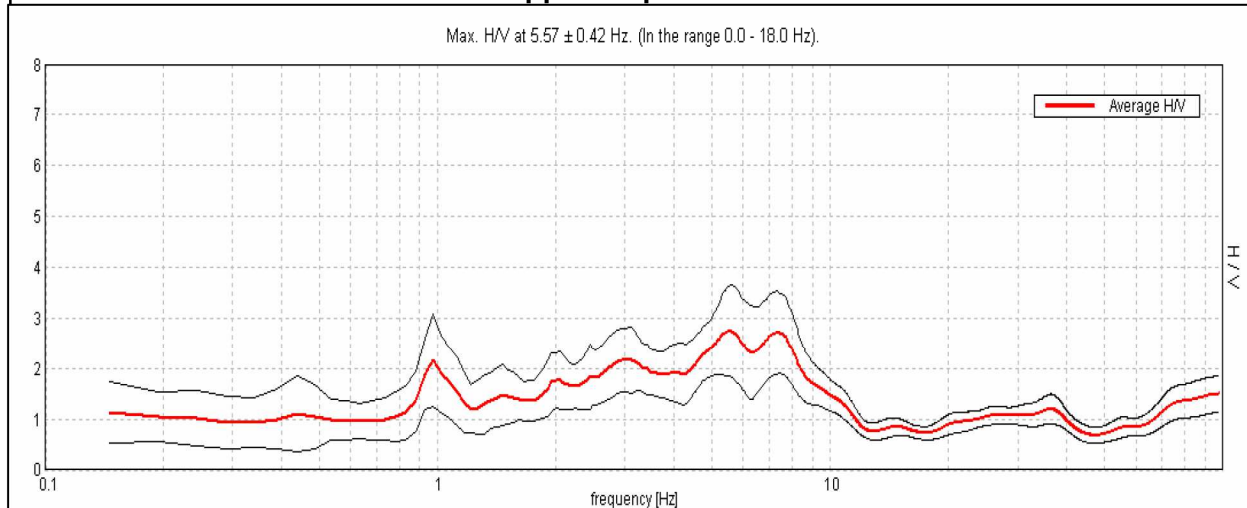


STUDIO GEOLOGICO CENTROGEO P.zza S.Quirino, 6 - 42015 CORREGGIO	INDAGINE HVSR H39
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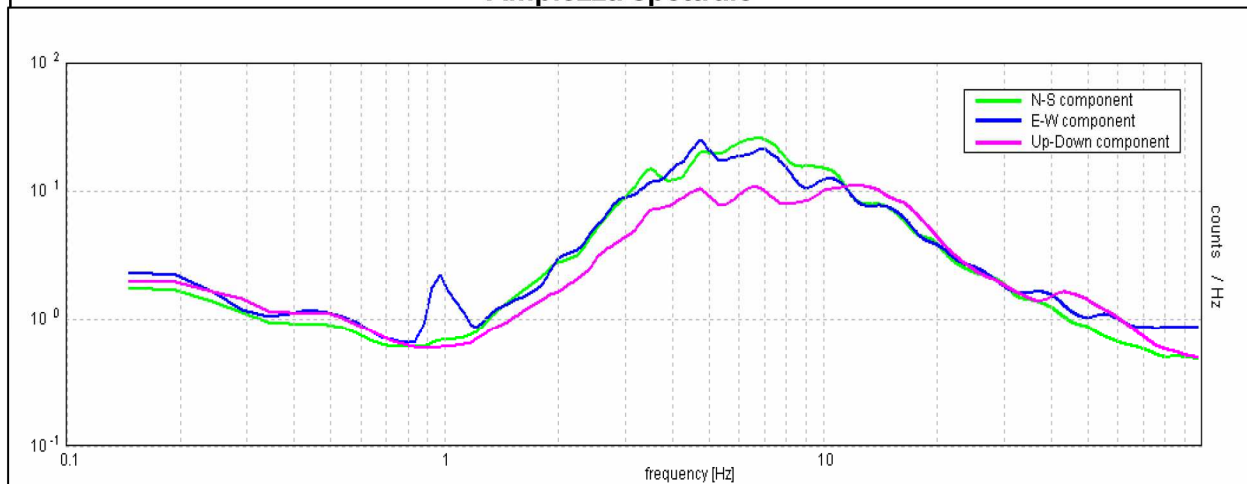
LOCALITA': Marzabotto (BO)	COMMITTENTE: Amm. Comunale
DATA: 19-12-2013	CANTIERE: Sperticano
QUOTA: 170 m. s.l.m.	OPERATORI: Arbizzi A.

Strumentazione: Sara SR04 HS - 4,5 Hz - matricola N488

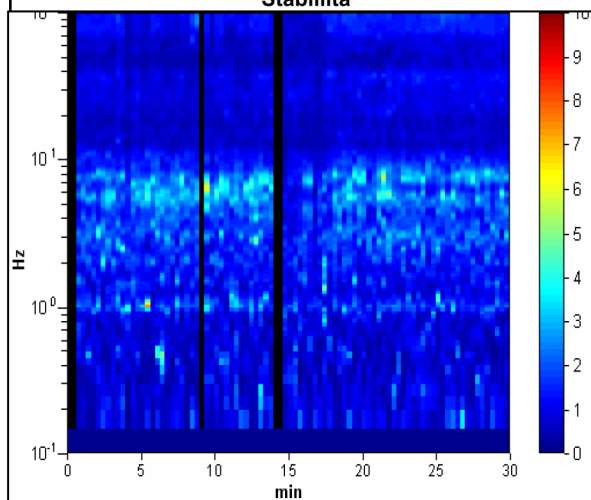
Rapporto spettrale



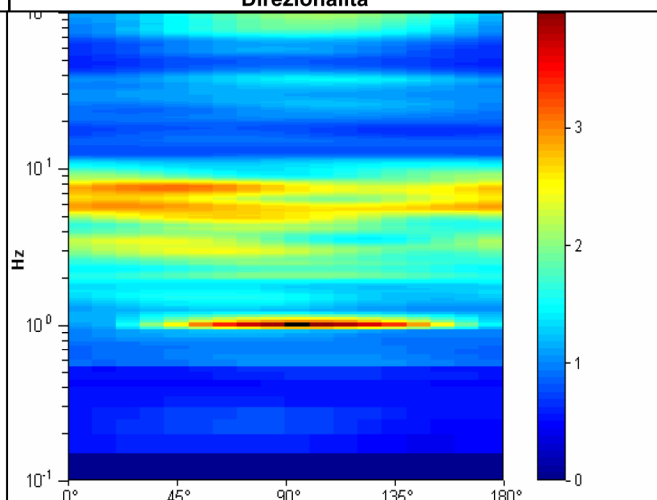
Ampiezza spettrale



Stabilità



Direzionalità

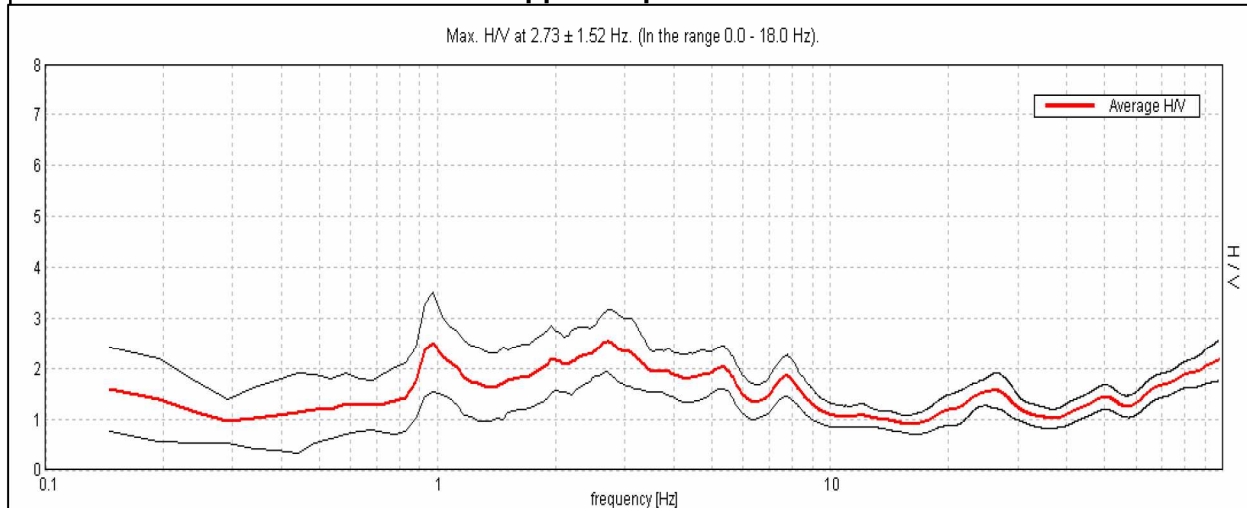


STUDIO GEOLOGICO CENTROGEO P.zza S.Quirino, 6 - 42015 CORREGGIO	INDAGINE HVSR H40
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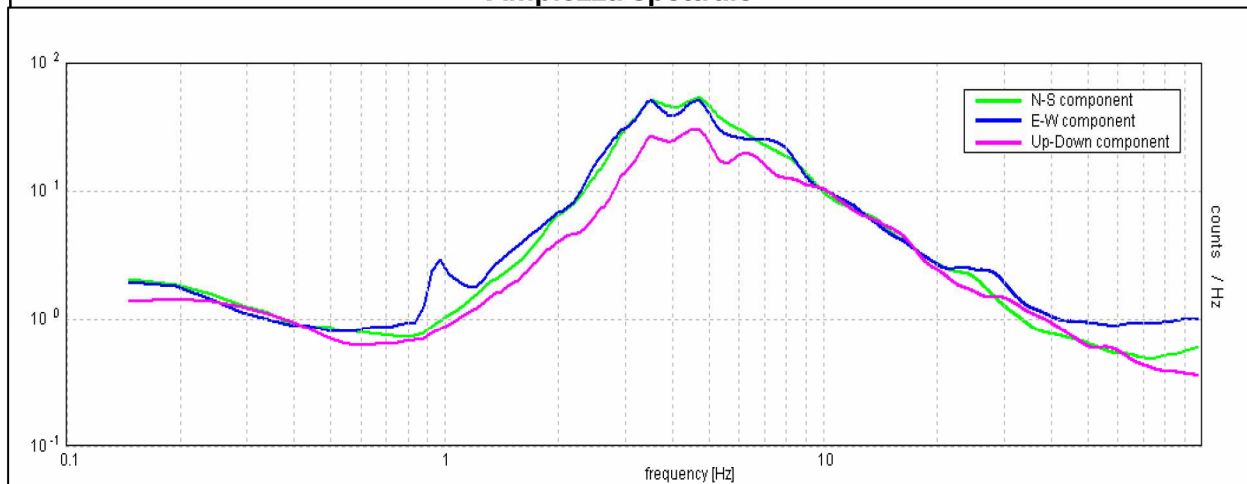
LOCALITA': Marzabotto (BO)	COMMITTENTE: Amm. Comunale
DATA: 18-12-2013	CANTIERE: Sperticano
QUOTA: 215 m. s.l.m.	OPERATORI: Arbizzi A.

Strumentazione: Sara SR04 HS - 4,5 Hz - matricola N488

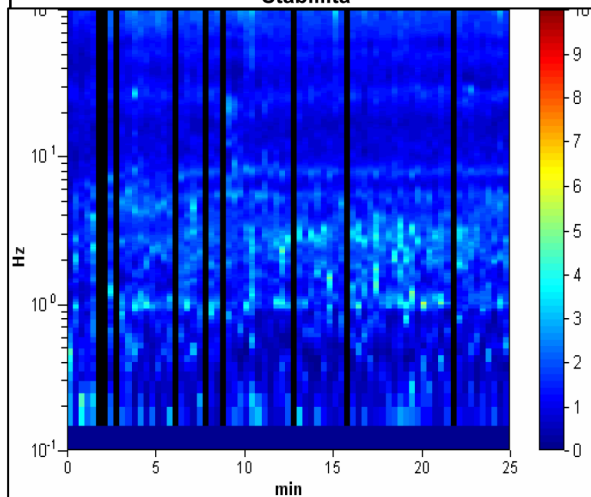
Rapporto spettrale



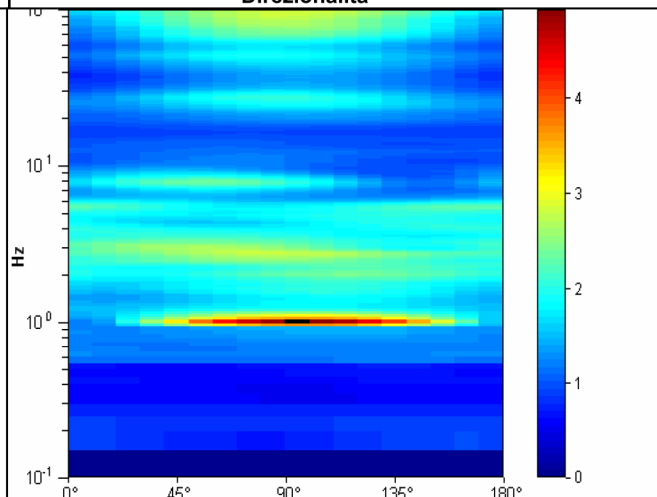
Ampiezza spettrale



Stabilità



Direzionalità

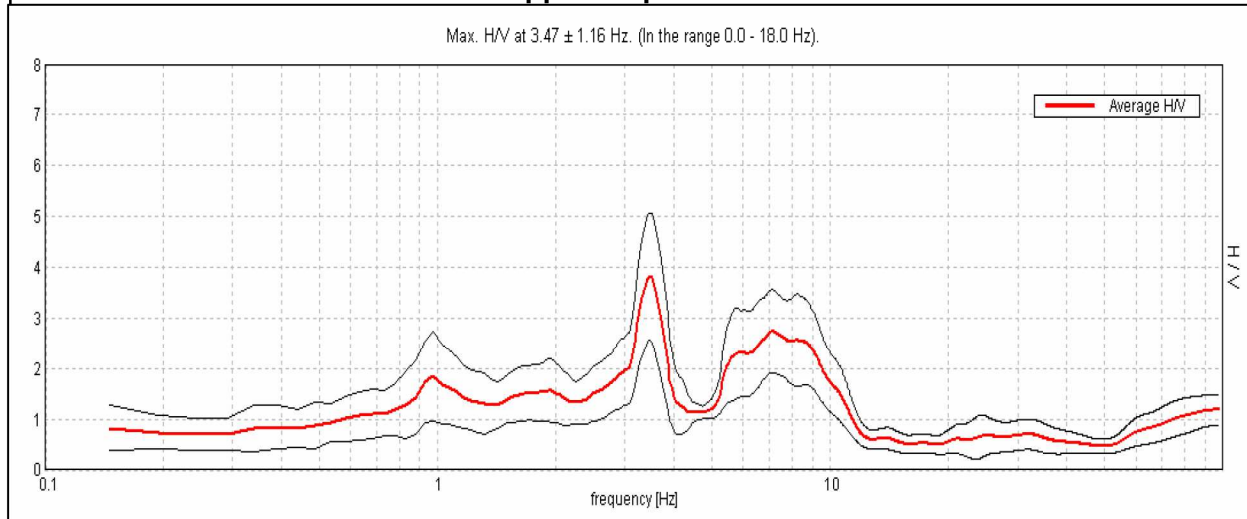


STUDIO GEOLOGICO CENTRO GEO P.zza S. Quirino, 6 - 42015 CORREGGIO	INDAGINE HVSR H41
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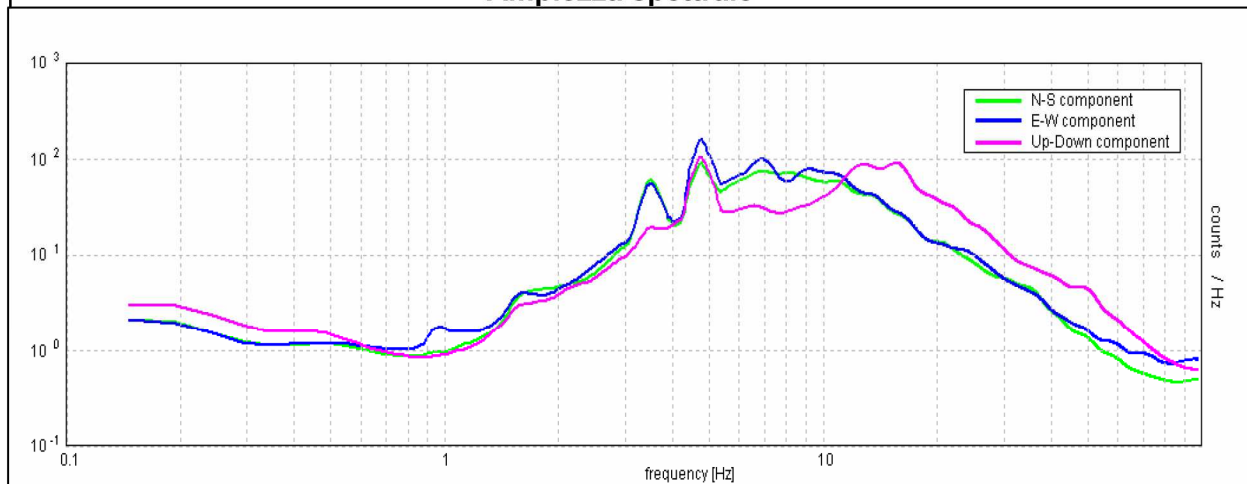
LOCALITA': Marzabotto (BO)	COMMITTENTE: Amm. Comunale
DATA: 19-12-2013	CANTIERE: Cà Lamma
QUOTA: 215 m. s.l.m.	OPERATORI: Arbizzi A.

Strumentazione: Sara SR04 HS - 4,5 Hz - matricola N488

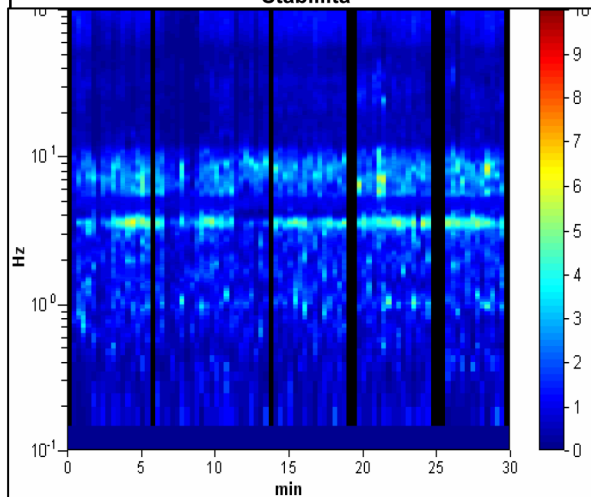
Rapporto spettrale



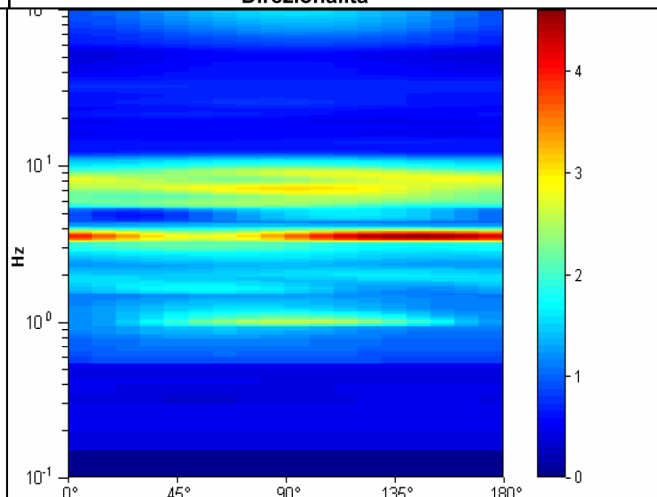
Ampiezza spettrale



Stabilità



Direzionalità

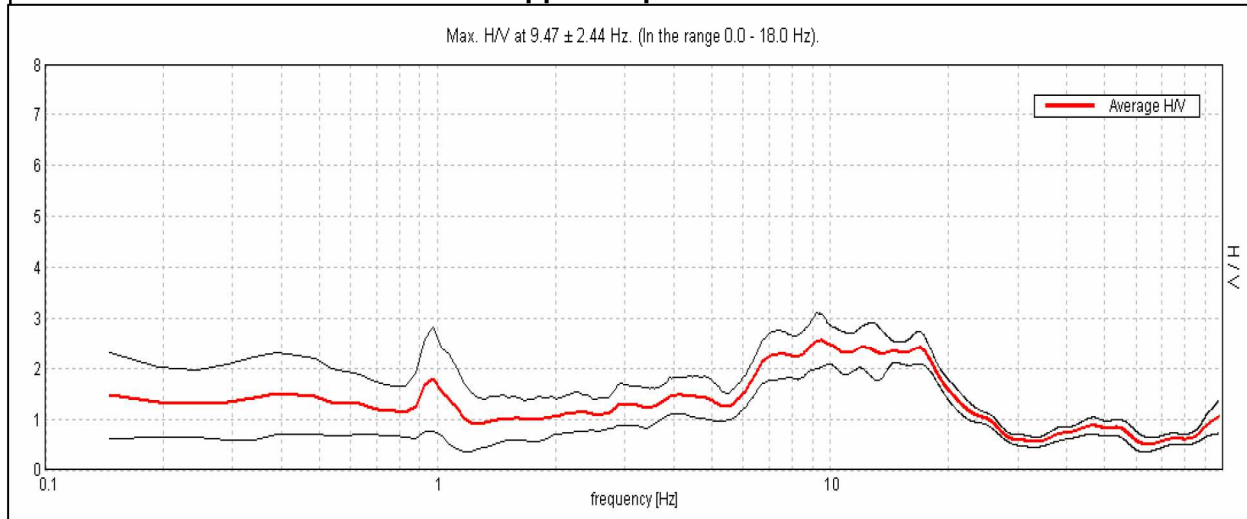


STUDIO GEOLOGICO CENTROGEO P.zza S.Quirino, 6 - 42015 CORREGGIO	INDAGINE HVSR H42
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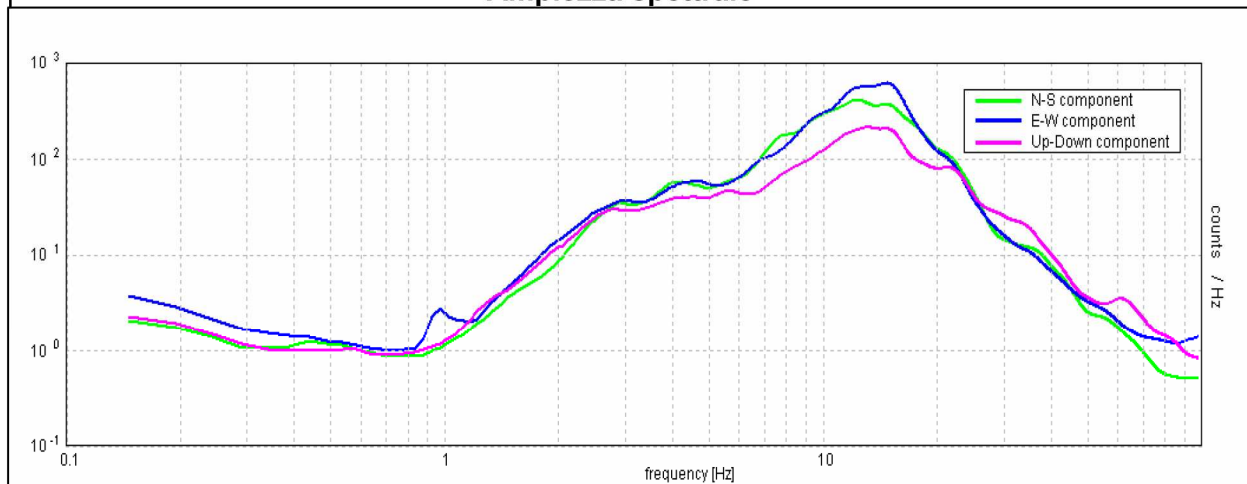
LOCALITA': Marzabotto (BO)	COMMITTENTE: Amm. Comunale
DATA: 19-12-2013	CANTIERE: Gardelletta
QUOTA: 185 m. s.l.m.	OPERATORI: Arbizzi A.

Strumentazione: Sara SR04 HS - 4,5 Hz - matricola N488

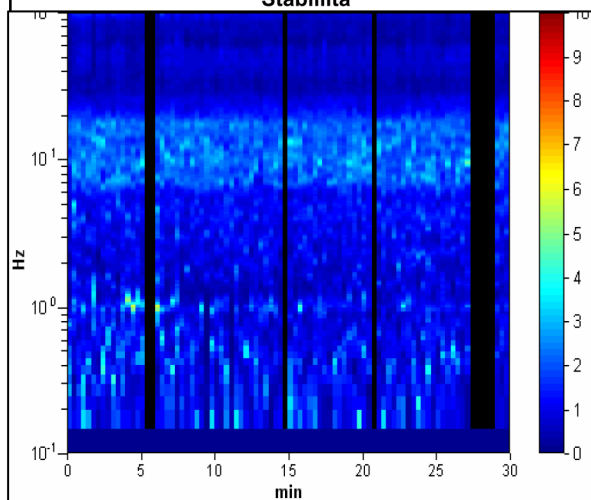
Rapporto spettrale



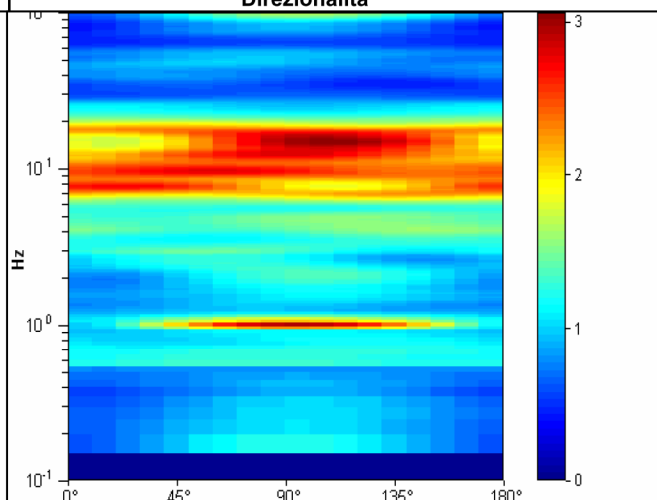
Ampiezza spettrale

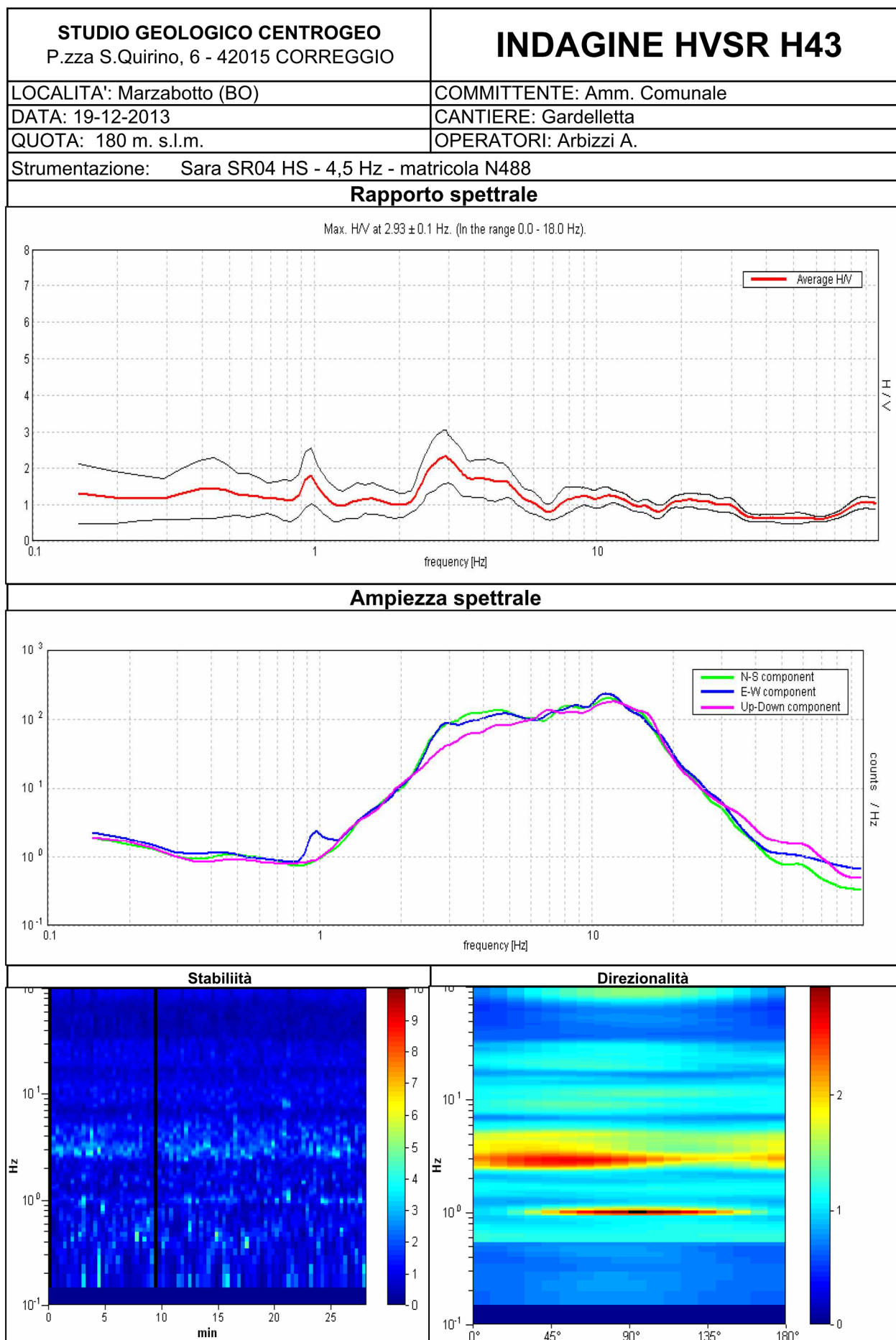


Stabilità



Direzionalità

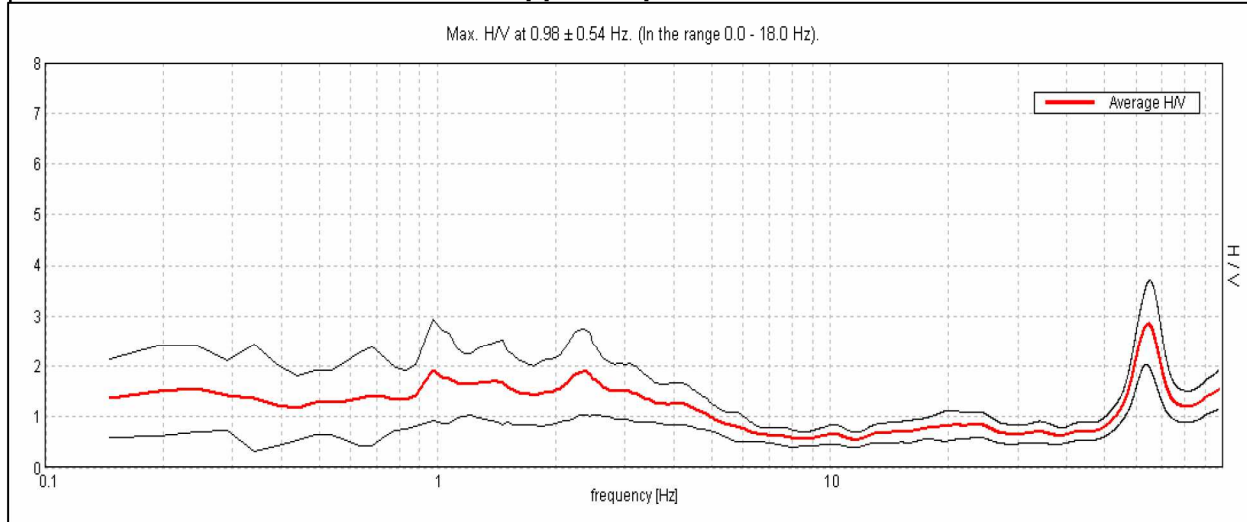




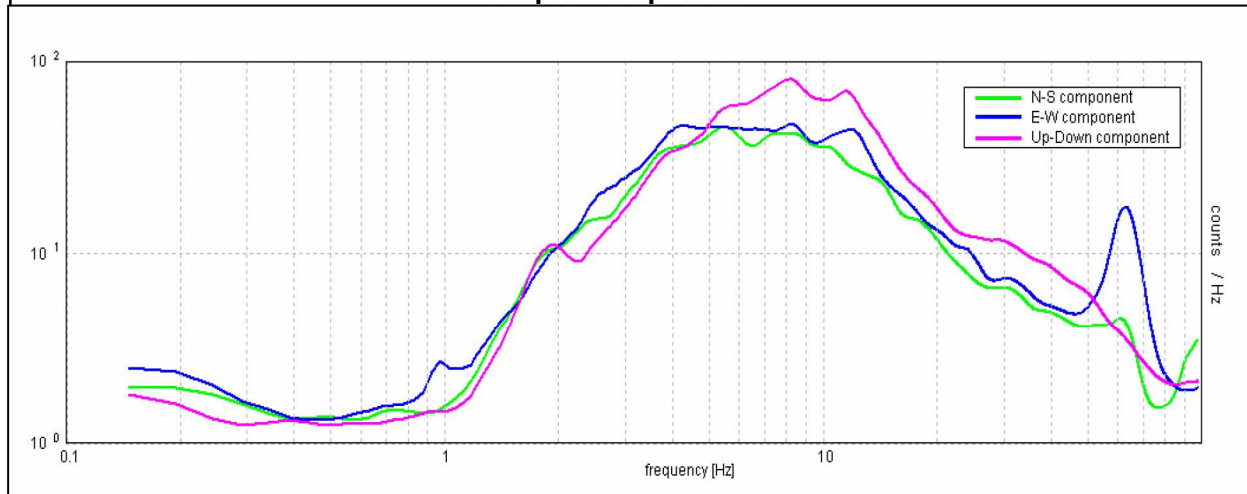
STUDIO GEOLOGICO CENTROGEO P.zza S.Quirino, 6 - 42015 CORREGGIO	INDAGINE HVSR H44
LOCALITA': Marzabotto (BO)	COMMITTENTE: Amm. Comunale
DATA: 23-12-2013	CANTIERE: Sibano
QUOTA: 155 m. s.l.m.	OPERATORI: Mazzetti M. - Arbizzi A.

Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

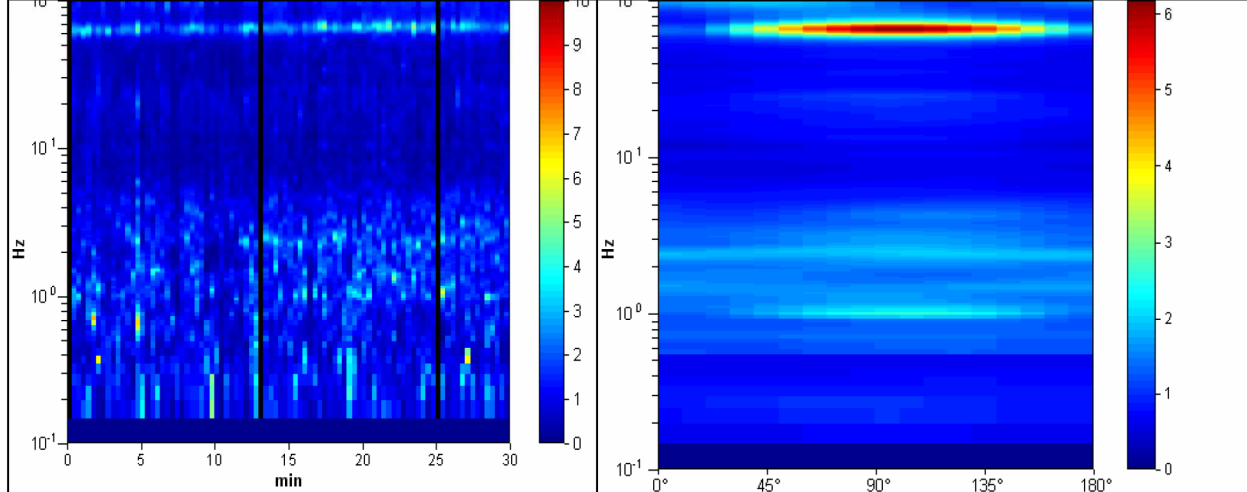


Ampiezza spettrale



Stabilità

Direzionalità

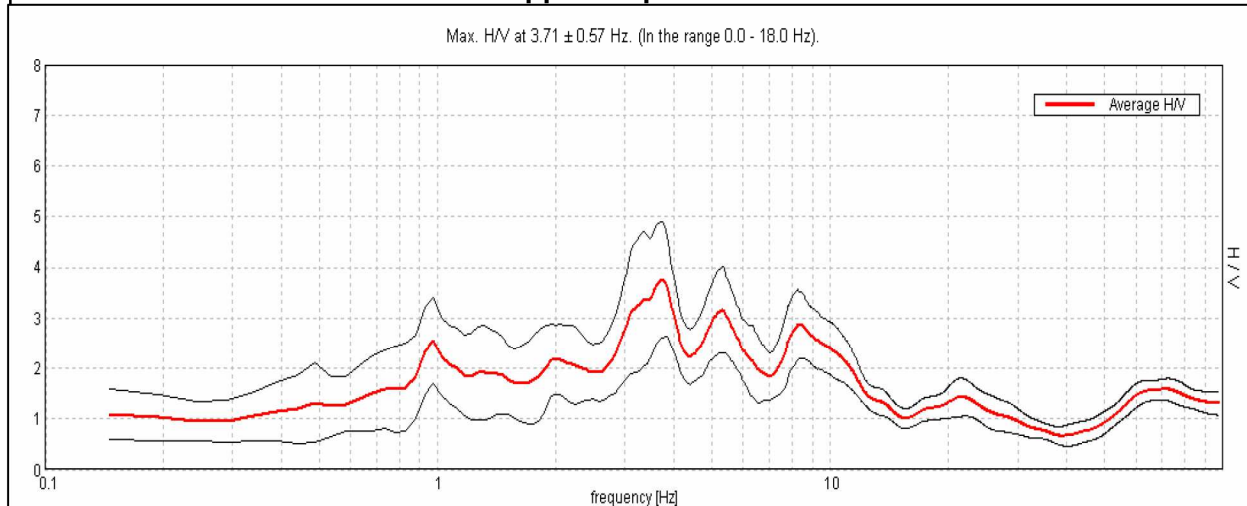


STUDIO GEOLOGICO CENTROGEO P.zza S.Quirino, 6 - 42015 CORREGGIO	INDAGINE HVSR H45
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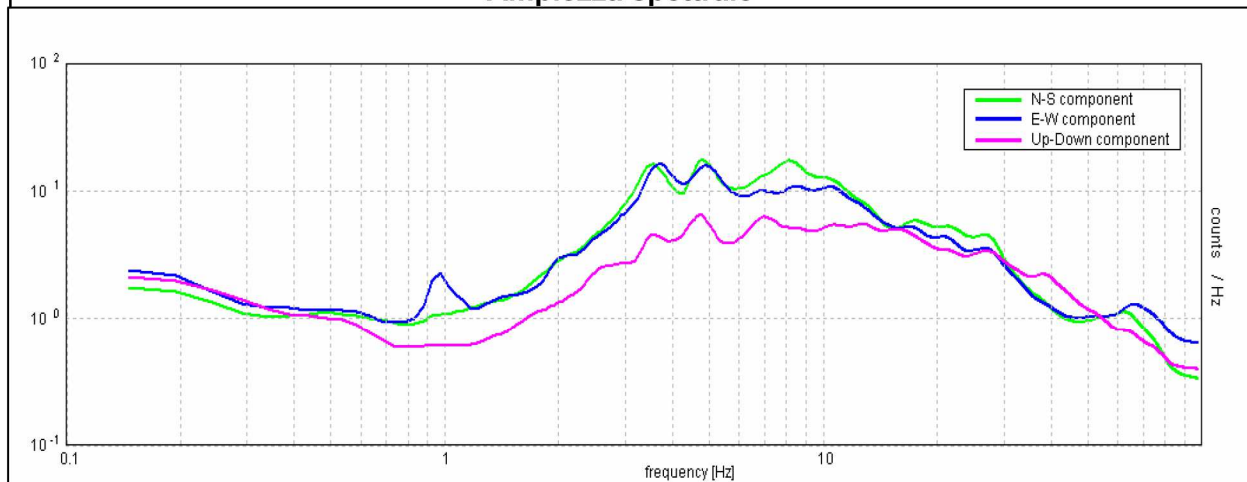
LOCALITA': Marzabotto (BO)	COMMITTENTE: Amm. Comunale
DATA: 19-12-2013	CANTIERE: Sperticano
QUOTA: 160 m. s.l.m.	OPERATORI: Mazzetti M. - Arbizzi A.

Strumentazione: Tromino TRZ-0134/01-11

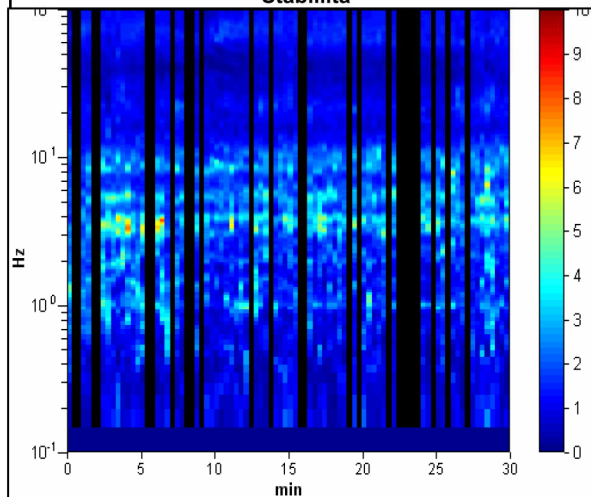
Rapporto spettrale



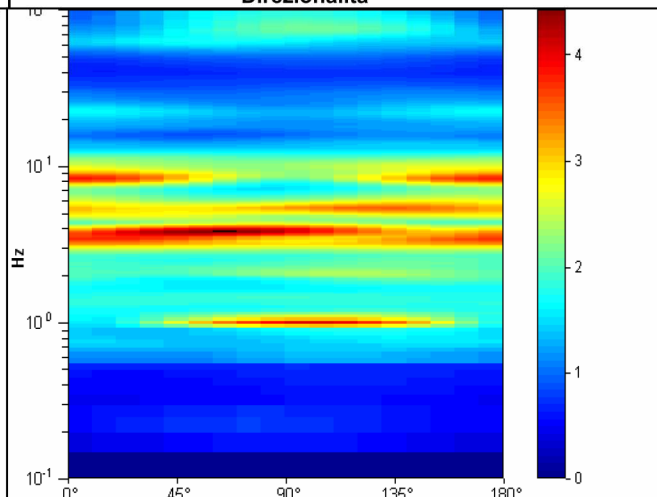
Ampiezza spettrale

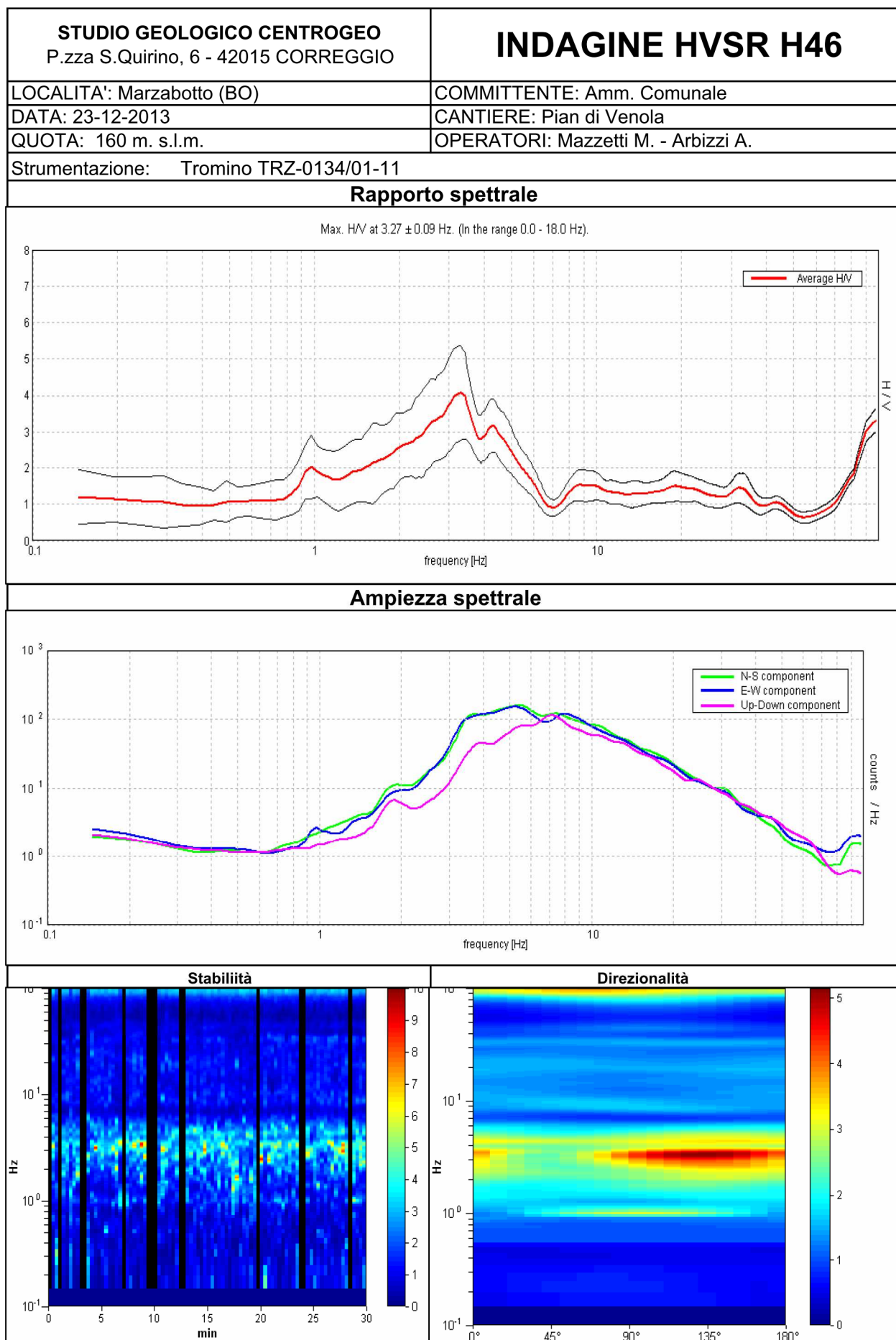


Stabilità



Direzionalità





STUDIO GEOLOGICO CENTROGEO
P.zza S.Quirino, 6 - 42015 CORREGGIO

INDAGINE HVSR H47

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 23-12-2013

CANTIERE: Marzabotto

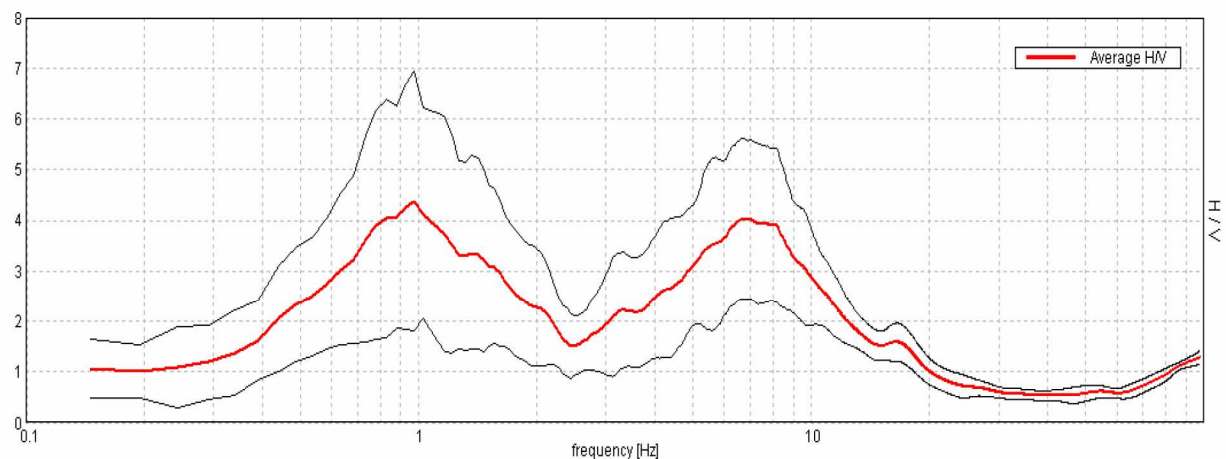
QUOTA: 160 m. s.l.m.

OPERATORI: Mazzetti M. - Arbizzi A.

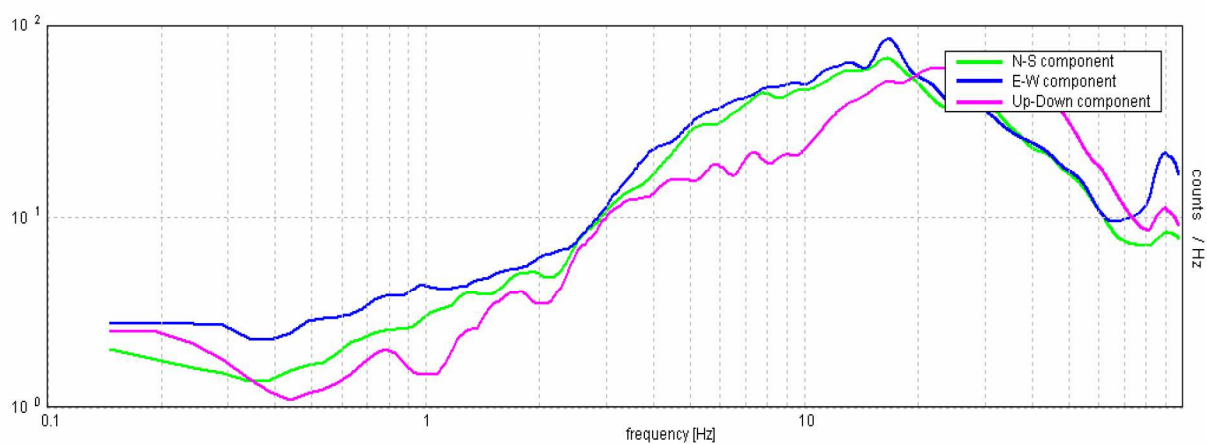
Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

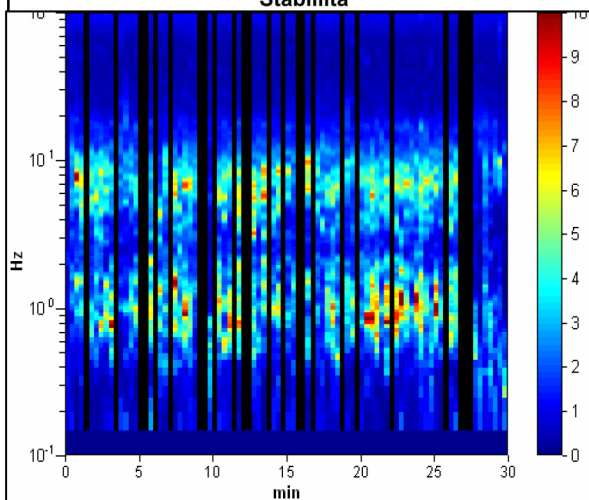
Max. HV at 0.98 ± 5.43 Hz. (In the range 0.0 - 18.0 Hz).



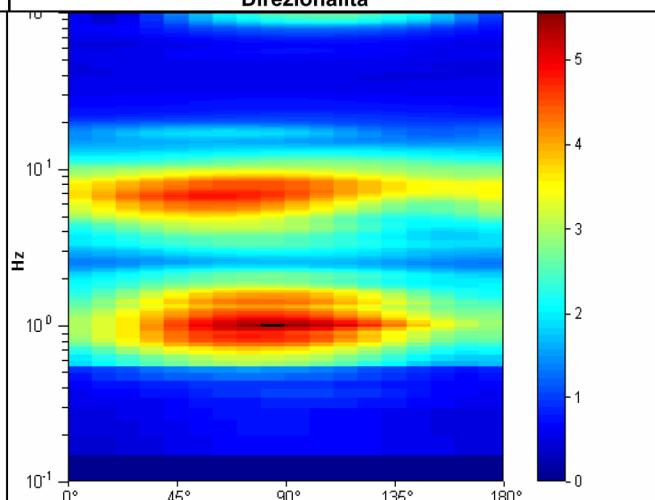
Ampiezza spettrale



Stabilità



Direzionalità

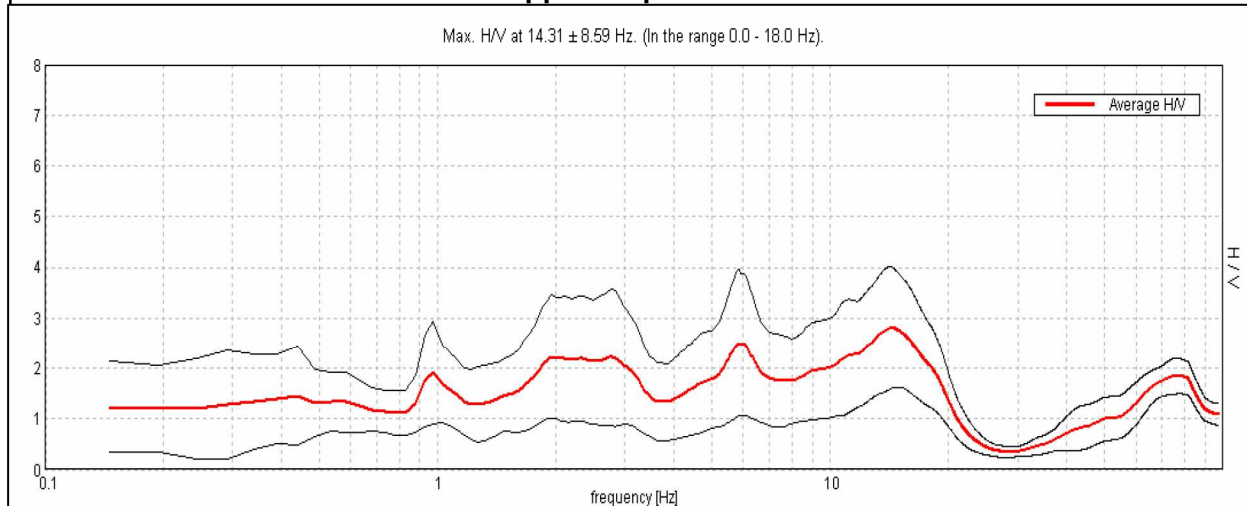


STUDIO GEOLOGICO CENTROGEO P.zza S.Quirino, 6 - 42015 CORREGGIO	INDAGINE HVSR H48
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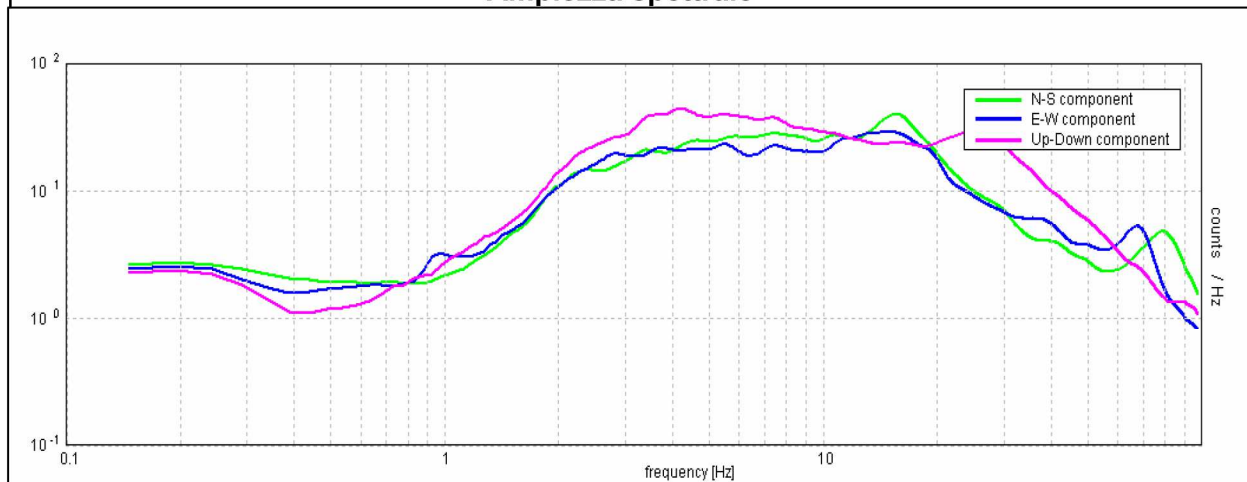
LOCALITA': Marzabotto (BO)	COMMITTENTE: Amm. Comunale
DATA: 23-12-2013	CANTIERE: Panico
QUOTA: 160 m. s.l.m.	OPERATORI: Mazzetti M. - Arbizzi A.

Strumentazione: Tromino TRZ-0134/01-11

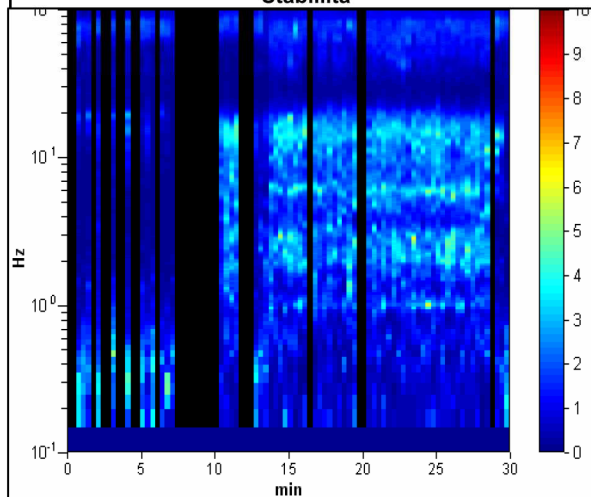
Rapporto spettrale



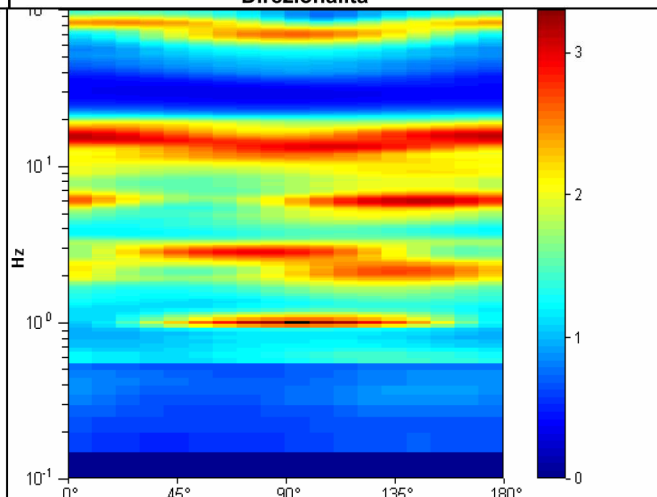
Ampiezza spettrale



Stabilità



Direzionalità



STUDIO GEOLOGICO CENTROGEO
P.zza S.Quirino, 6 - 42015 CORREGGIO

INDAGINE HVSR H49

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 23-12-2013

CANTIERE: La Cà

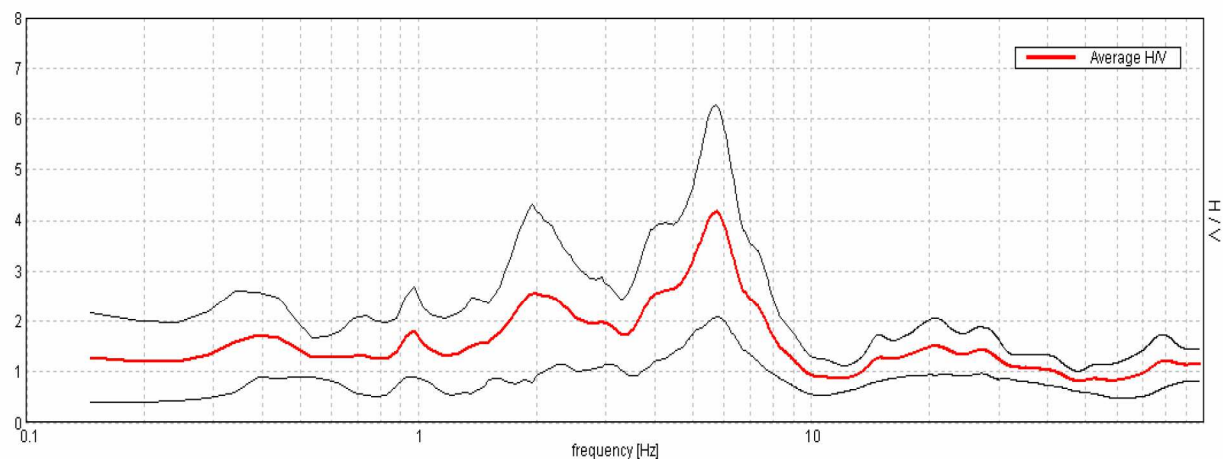
QUOTA: 150 m. s.l.m.

OPERATORI: Mazzetti M. - Arbizzi A.

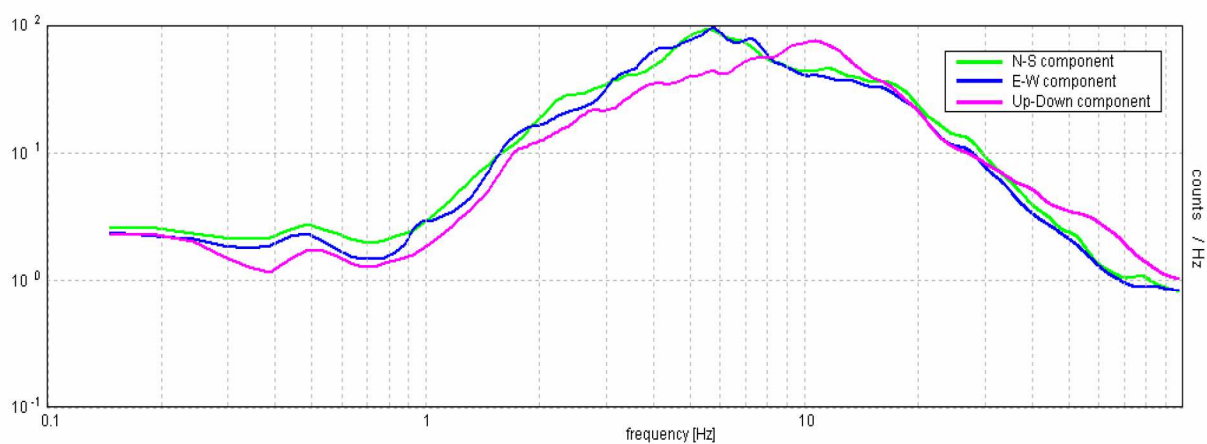
Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

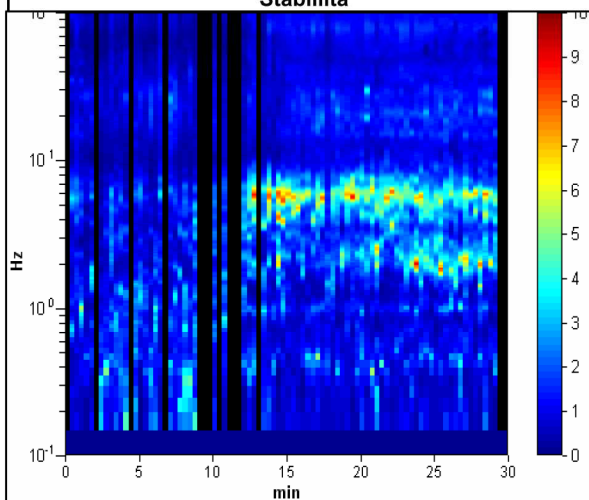
Max. HV at 5.71 ± 1.55 Hz. (In the range 0.0 - 18.0 Hz).



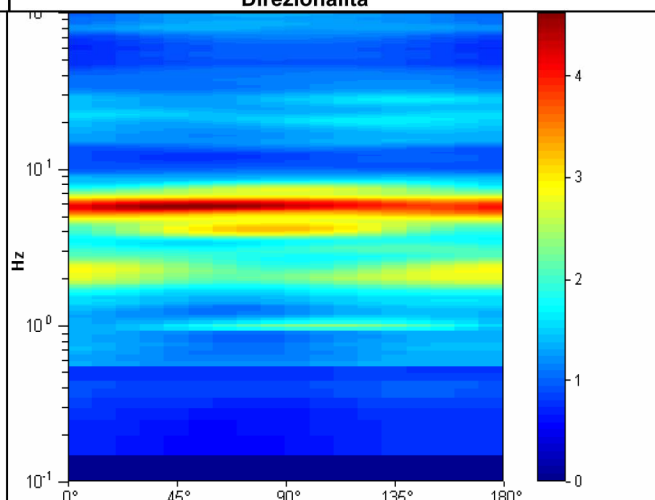
Ampiezza spettrale



Stabilità



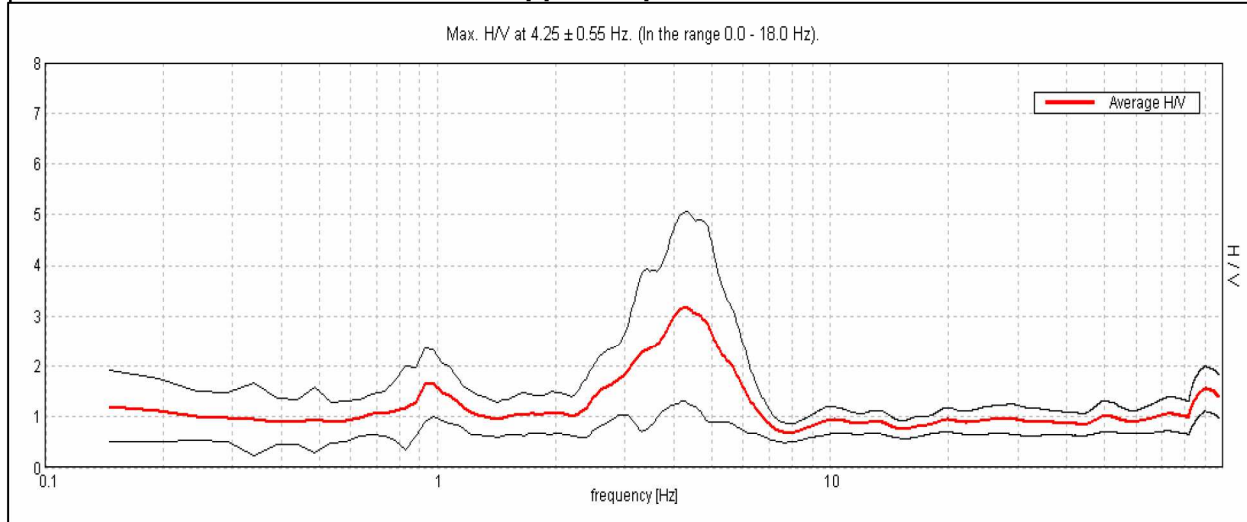
Direzionalità



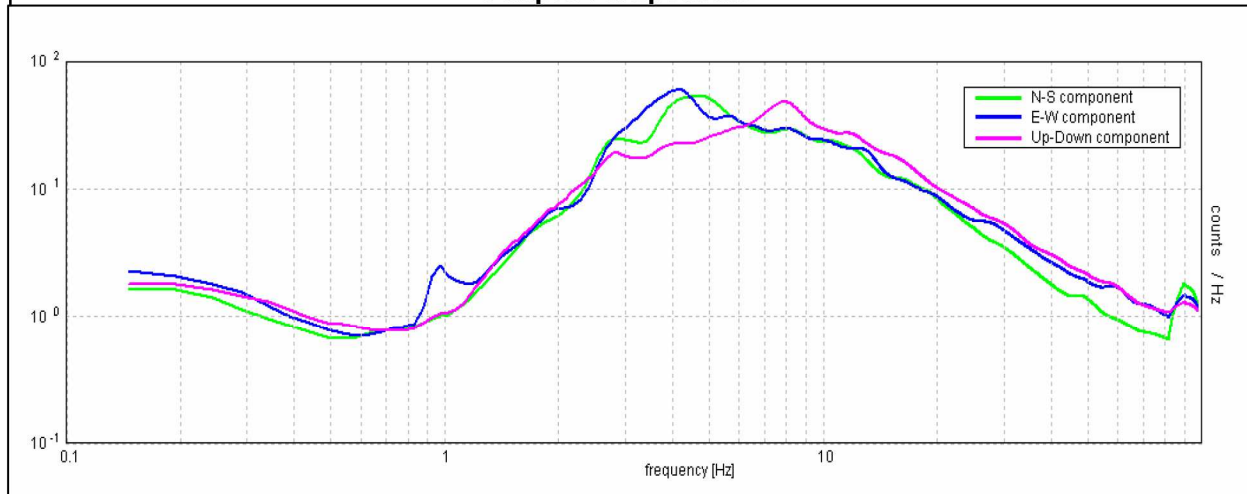
STUDIO GEOLOGICO CENTROGEO P.zza S.Quirino, 6 - 42015 CORREGGIO		INDAGINE HVSR H50	
LOCALITA': Marzabotto (BO)		COMMITTENTE: Amm. Comunale	
DATA: 23-12-2013		CANTIERE: Sirano	
QUOTA: 160 m. s.l.m.		OPERATORI: Mazzetti M. - Arbizzi A.	

Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

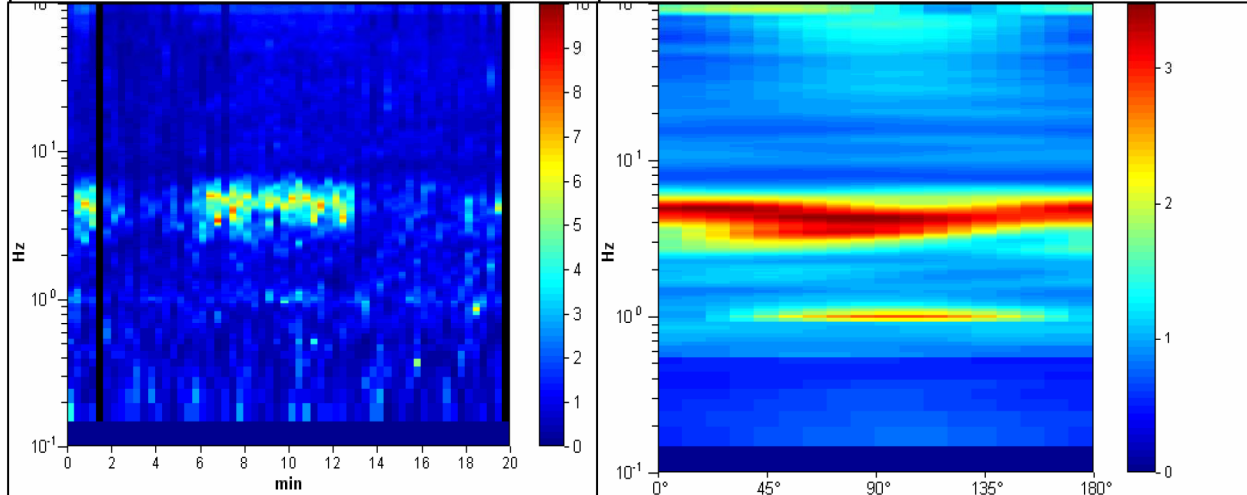


Ampiezza spettrale



Stabilità

Direzionalità



STUDIO GEOLOGICO CENTROGEO
P.zza S.Quirino, 6 - 42015 CORREGGIO

INDAGINE HVSR H51

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 08-04-2014

CANTIERE: Pian di Venola

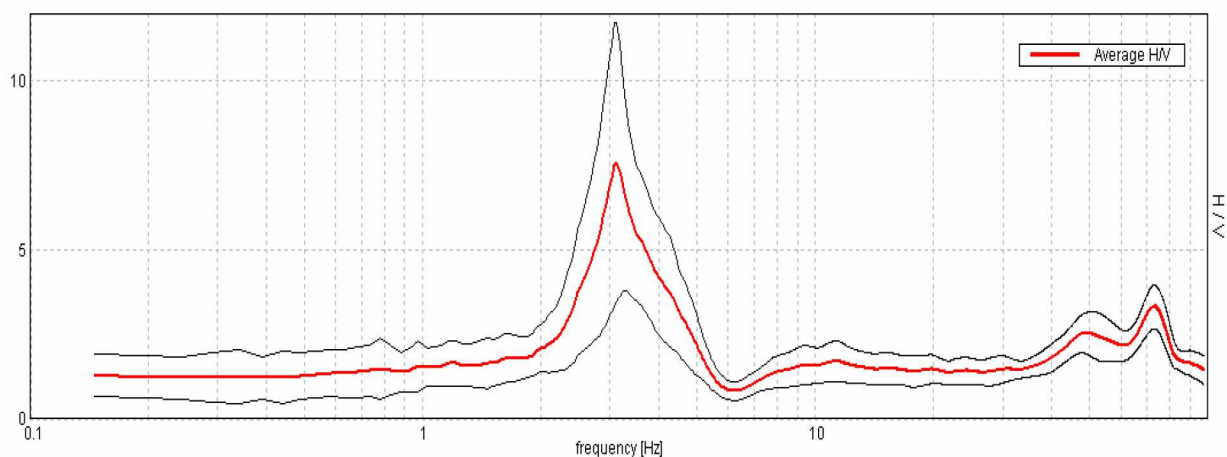
QUOTA: 157 m. s.l.m.

OPERATORI: Mazzetti M. - Arbizzi A.

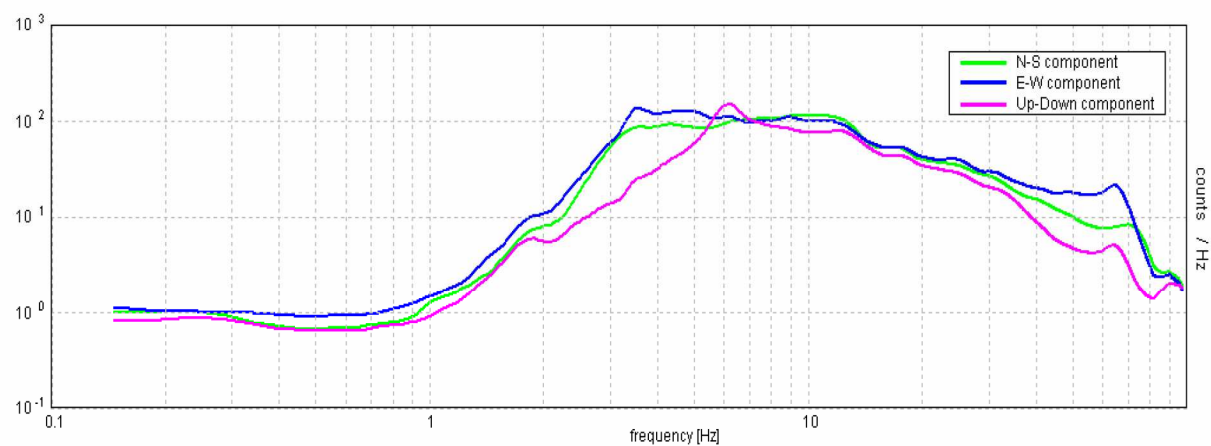
Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

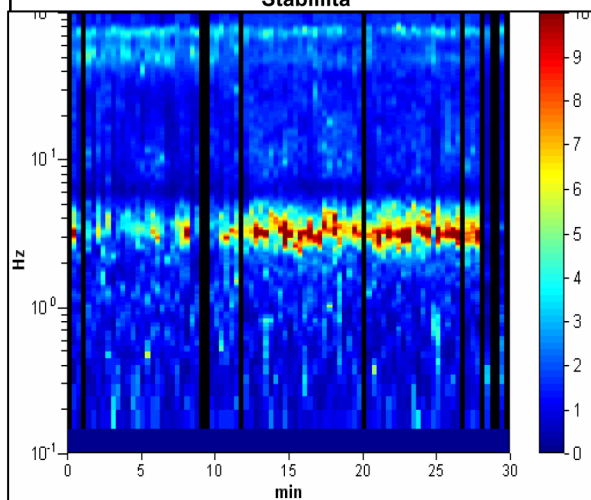
Max. HV at 3.13 ± 0.05 Hz. (In the range 0.4 - 18.0 Hz).



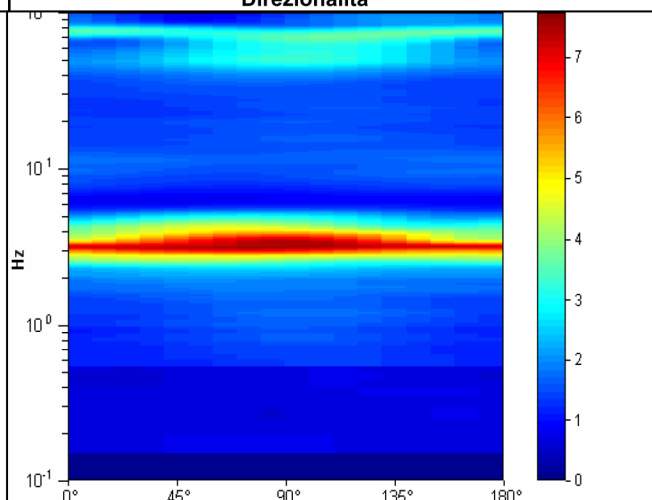
Ampiezza spettrale



Stabilità



Direzionalità

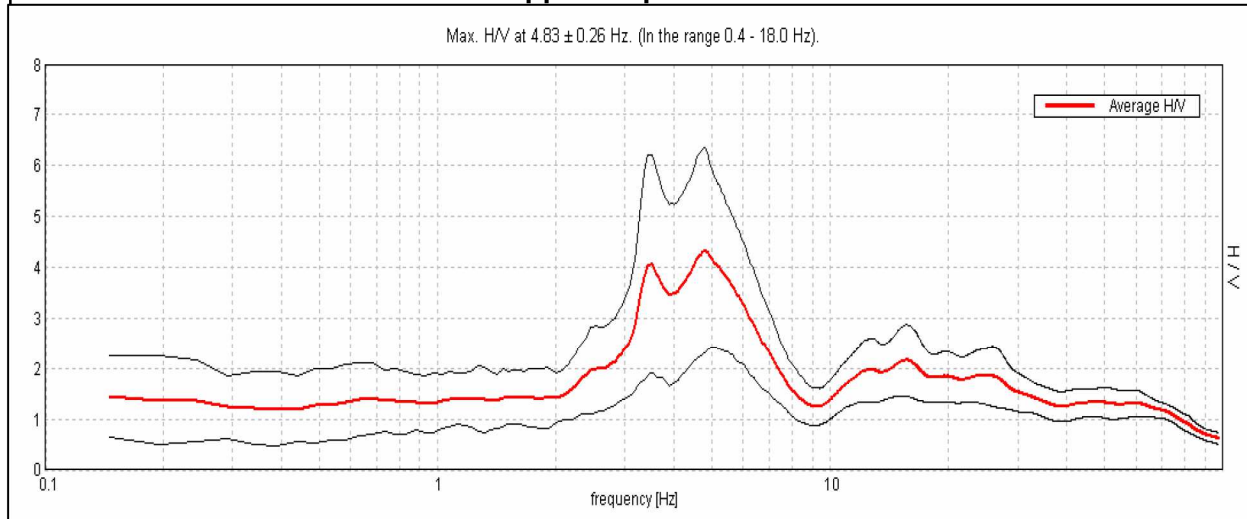


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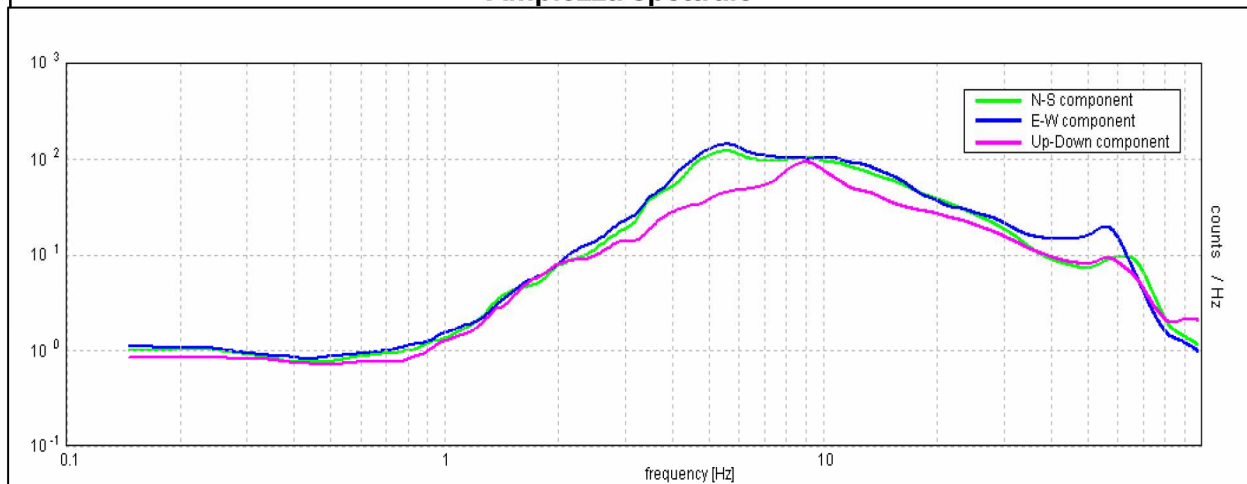
LOCALITA': Marzabotto (BO)	COMMITTENTE: Amm. Comunale
DATA: 08-04-2014	CANTIERE: Pian di Venola
QUOTA: 149 m. s.l.m.	OPERATORI: Mazzetti M. - Arbizzi A.

Strumentazione: Tromino TRZ-0134/01-11

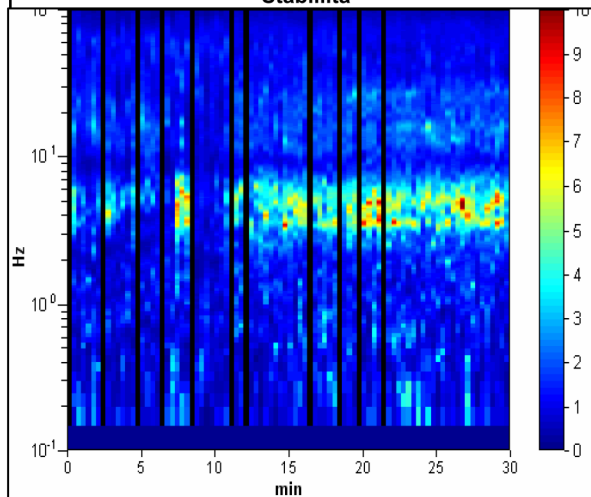
Rapporto spettrale



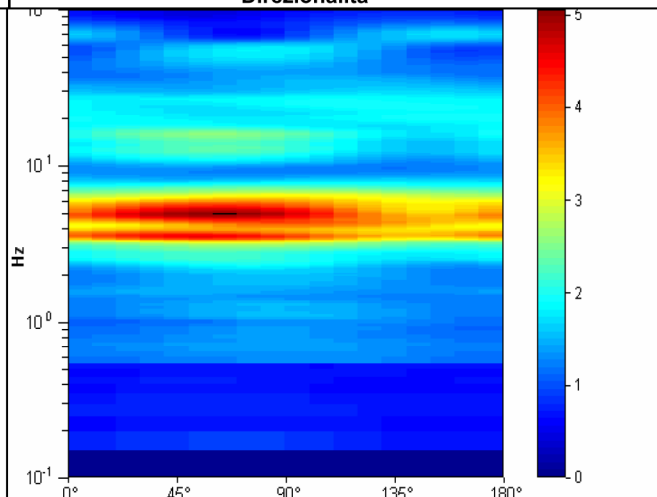
Ampiezza spettrale



Stabilità



Direzionalità



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INDAGINE HVSR H53

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 08-04-2014

CANTIERE: Pian di Venola

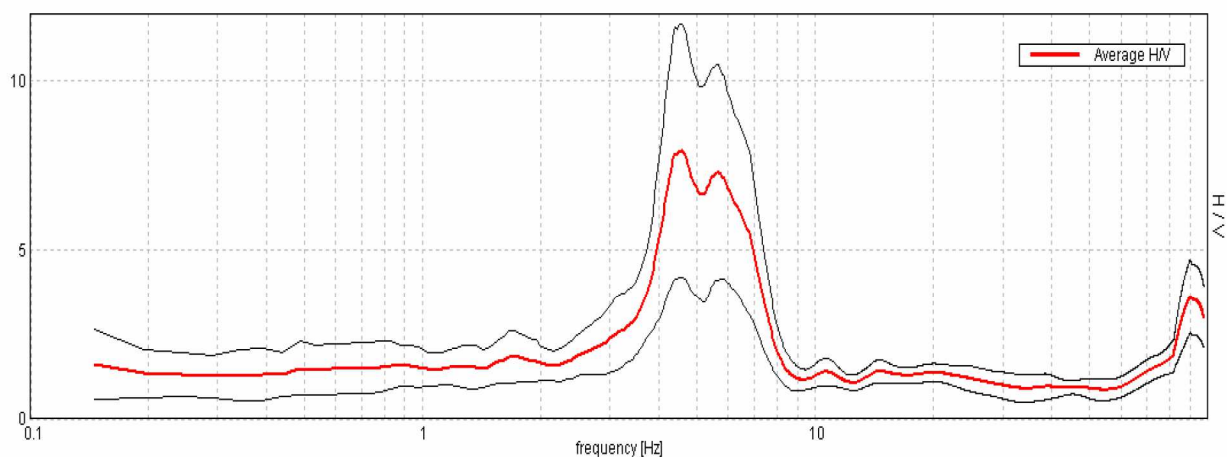
QUOTA: 144 m. s.l.m.

OPERATORI: Mazzetti M. - Arbizzi A.

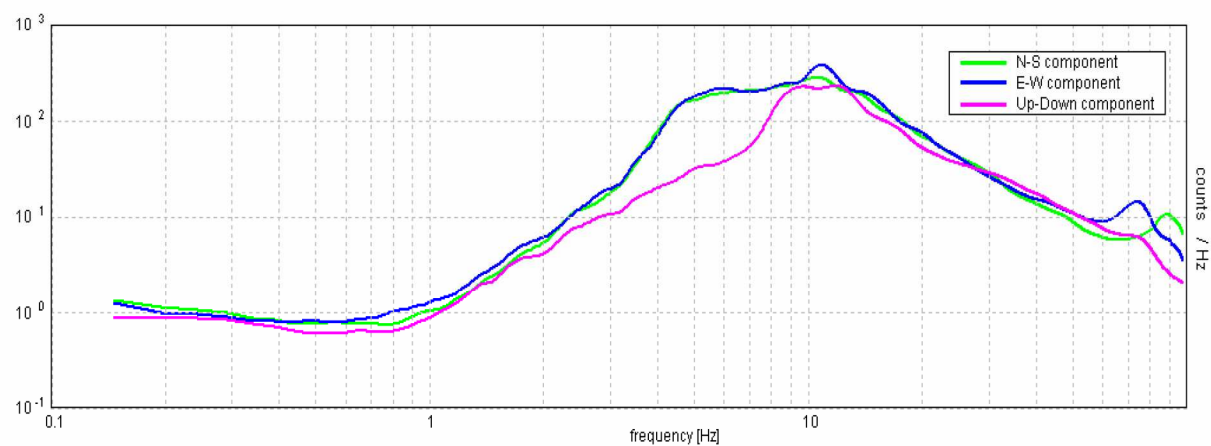
Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

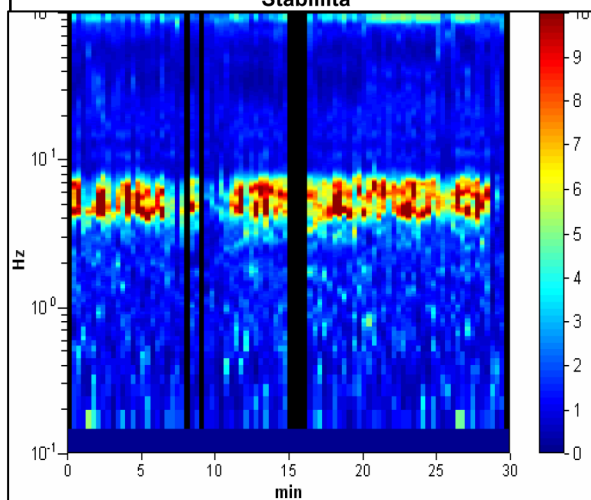
Max. HV at 4.54 ± 0.08 Hz. (In the range 0.4 - 18.0 Hz).



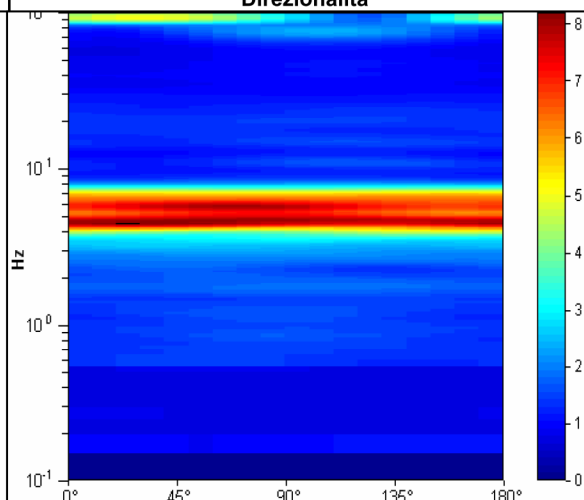
Ampiezza spettrale



Stabilità



Direzionalità



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INDAGINE HVSR H54

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 08-04-2014

CANTIERE: Sasdello

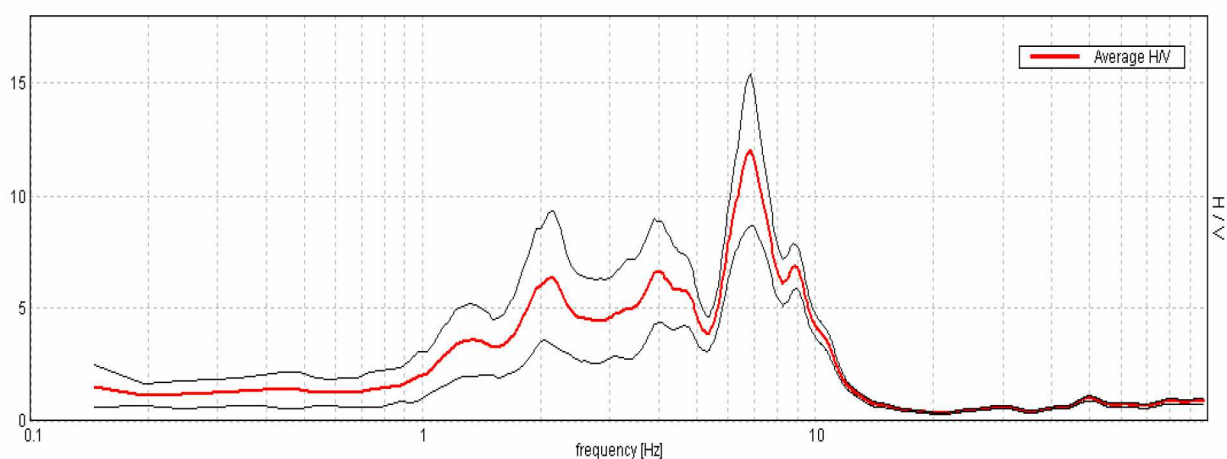
QUOTA: 126 m. s.l.m.

OPERATORI: Mazzetti M. - Arbizzi A.

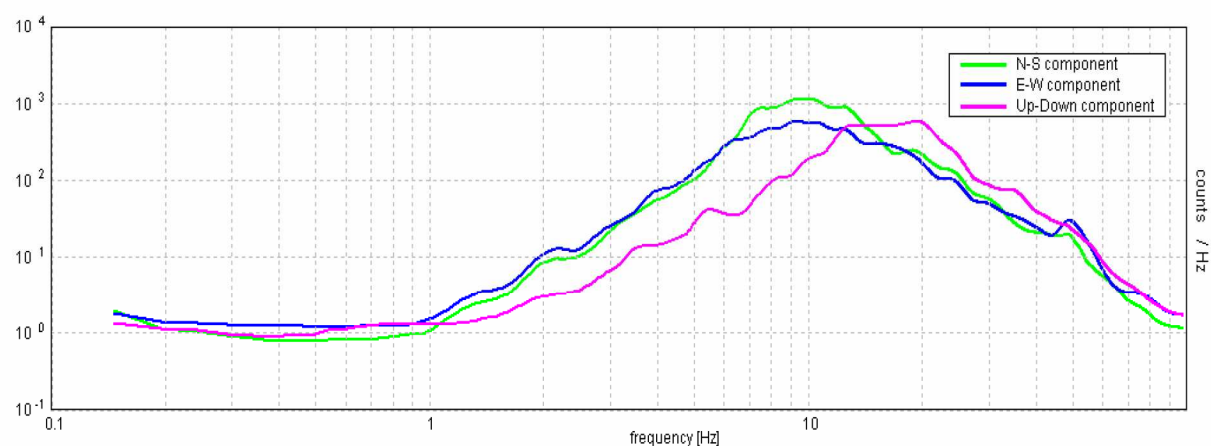
Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

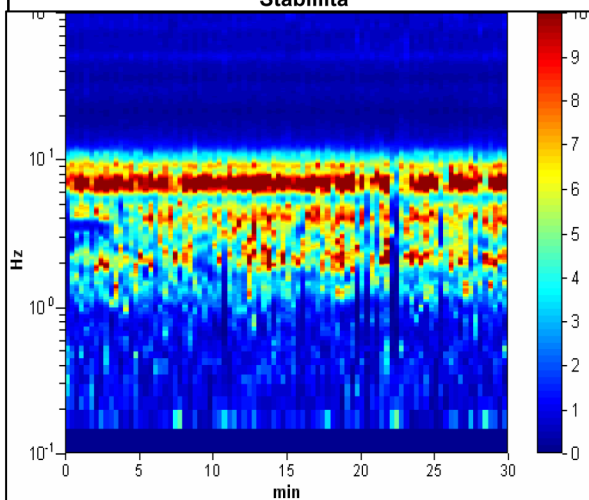
Max. HV at 6.84 ± 0.05 Hz. (In the range 0.4 - 18.0 Hz).



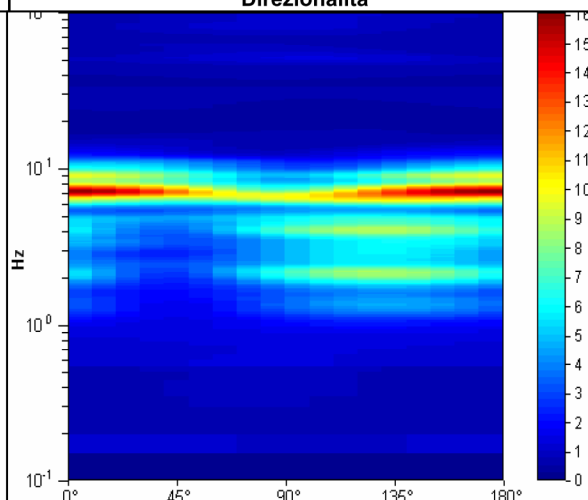
Ampiezza spettrale



Stabilità



Direzionalità



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P.zza S. Quirino, 6 - 42015 CORREGGIO

INDAGINE HVSR H55

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 08-04-2014

CANTIERE: Sasdello

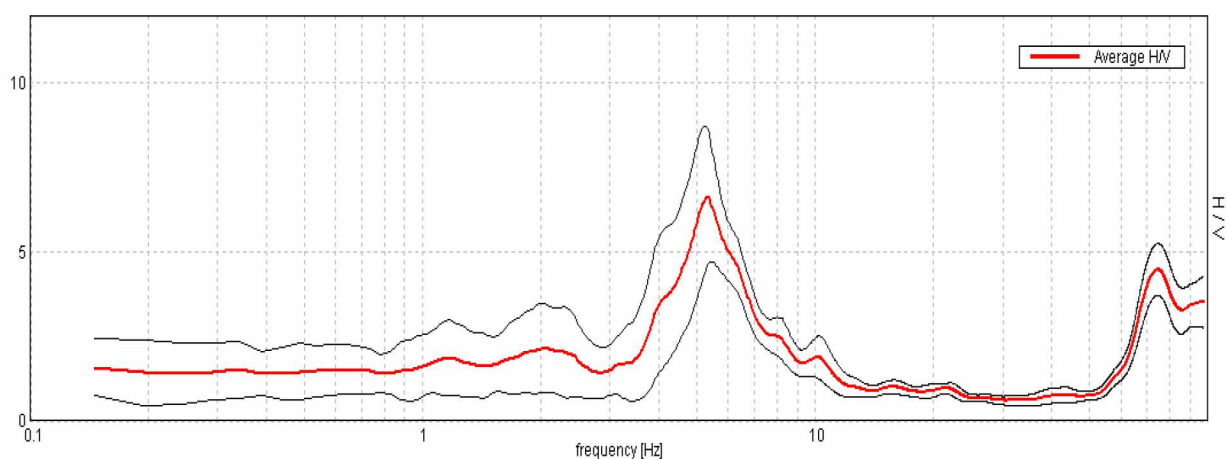
QUOTA: 135 m. s.l.m.

OPERATORI: Mazzetti M. - Arbizzi A.

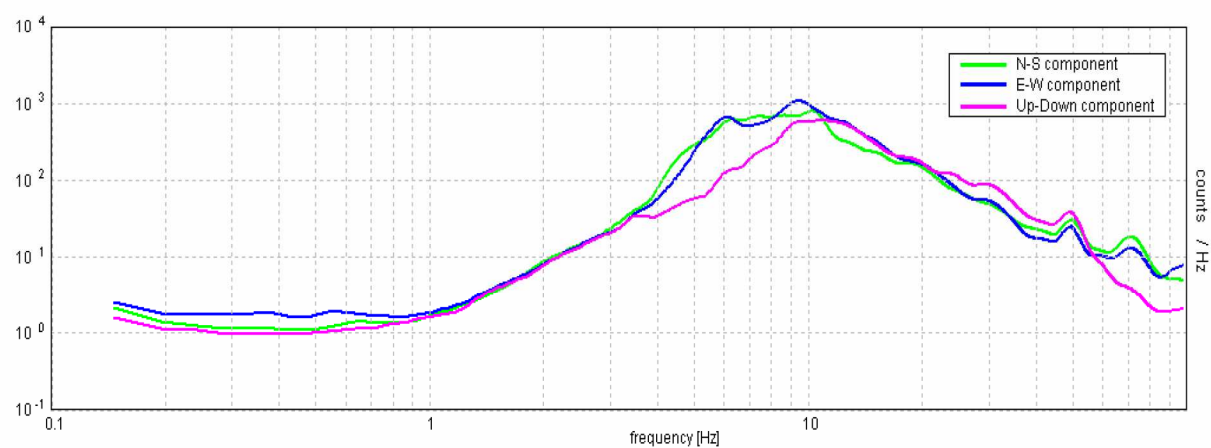
Strumentazione: Tromino TRZ-0134/01-11

Rapporto spettrale

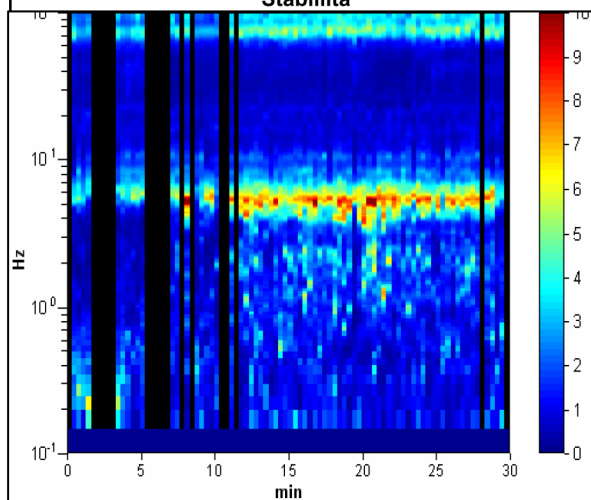
Max. HV at 5.32 ± 0.24 Hz. (In the range 0.4 - 18.0 Hz).



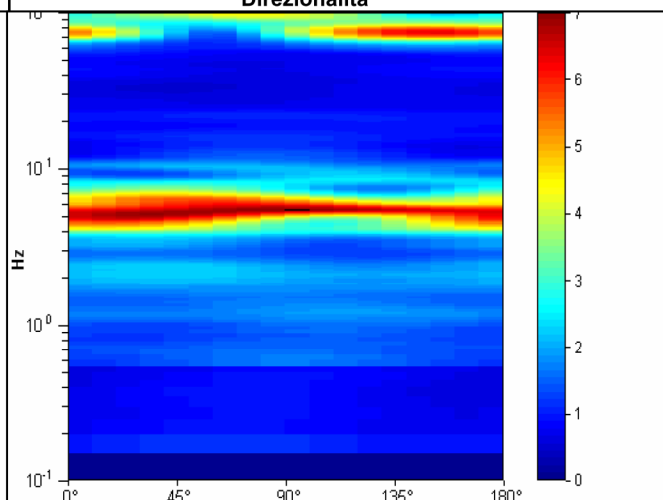
Ampiezza spettrale



Stabilità



Direzionalità



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INDAGINE HVSR H56

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 08-04-2014

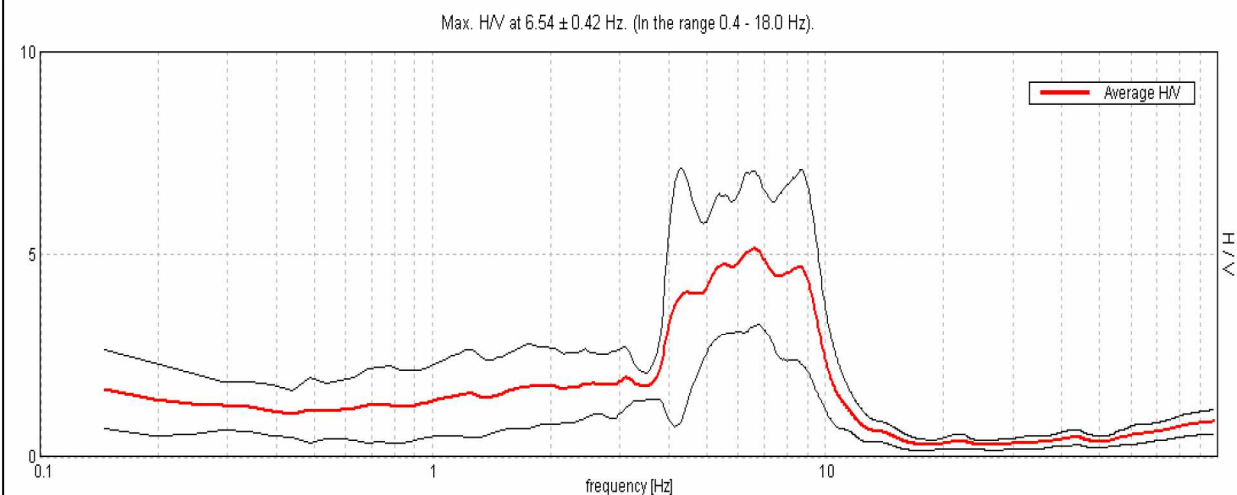
CANTIERE: Sasdello

QUOTA: 126 m. s.l.m.

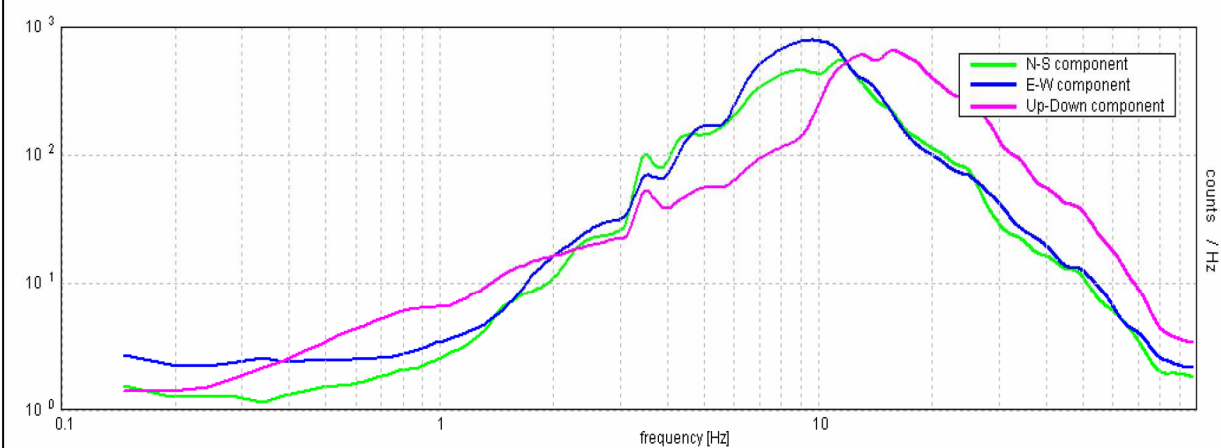
OPERATORI: Mazzetti M. - Arbizzi A.

Strumentazione: Tromino TRZ-0134/01-11

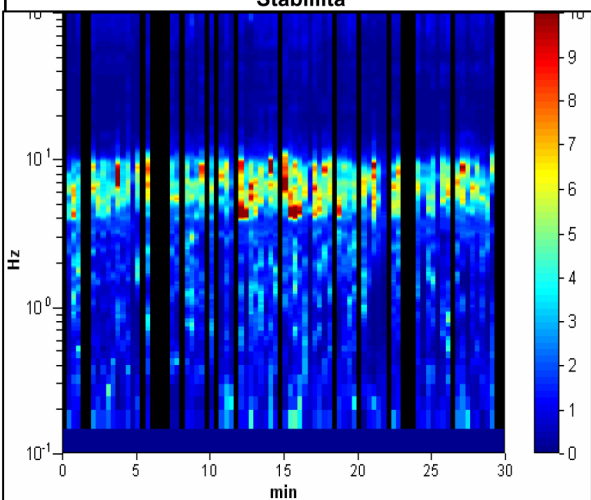
Rapporto spettrale



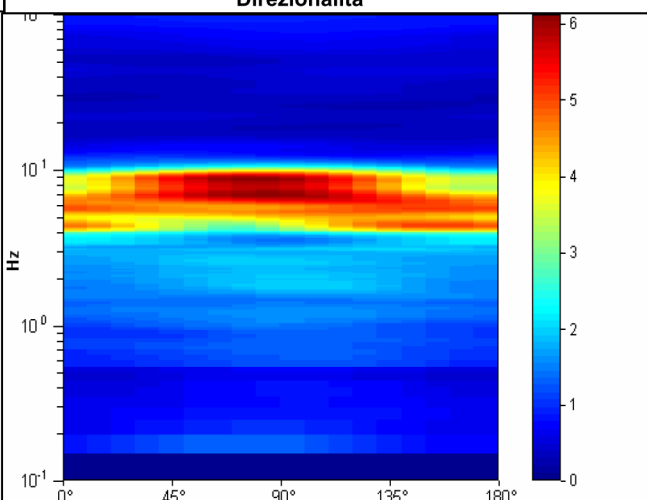
Ampiezza spettrale



Stabilità



Direzionalità



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INDAGINE HVSR H57

LOCALITA': Marzabotto (BO)

COMMITTENTE: Amm. Comunale

DATA: 08-04-2014

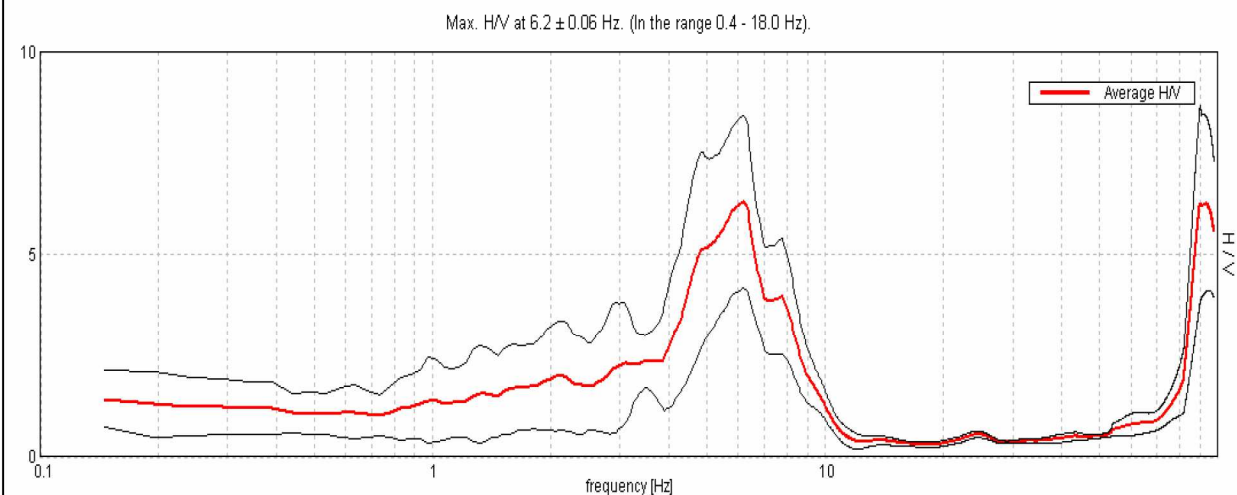
CANTIERE: Sasdello

QUOTA: 126 m. s.l.m.

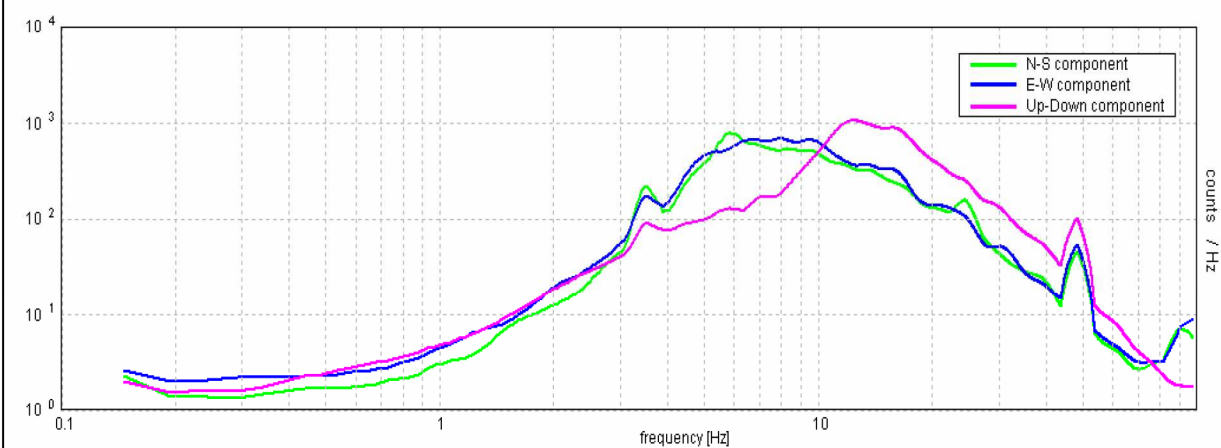
OPERATORI: Mazzetti M. - Arbizzi A.

Strumentazione: Tromino TRZ-0134/01-11

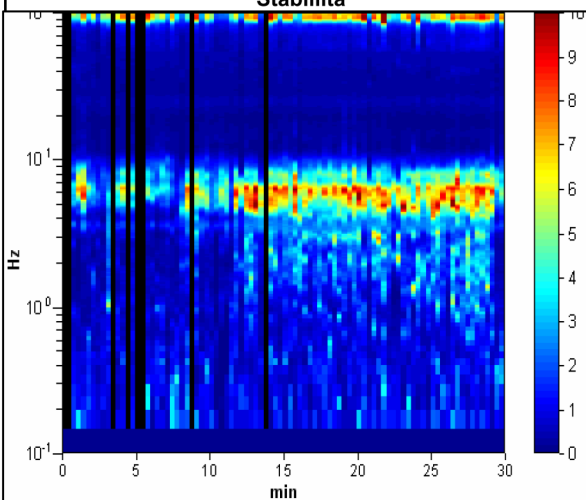
Rapporto spettrale



Ampiezza spettrale



Stabilità



Direzionalità

