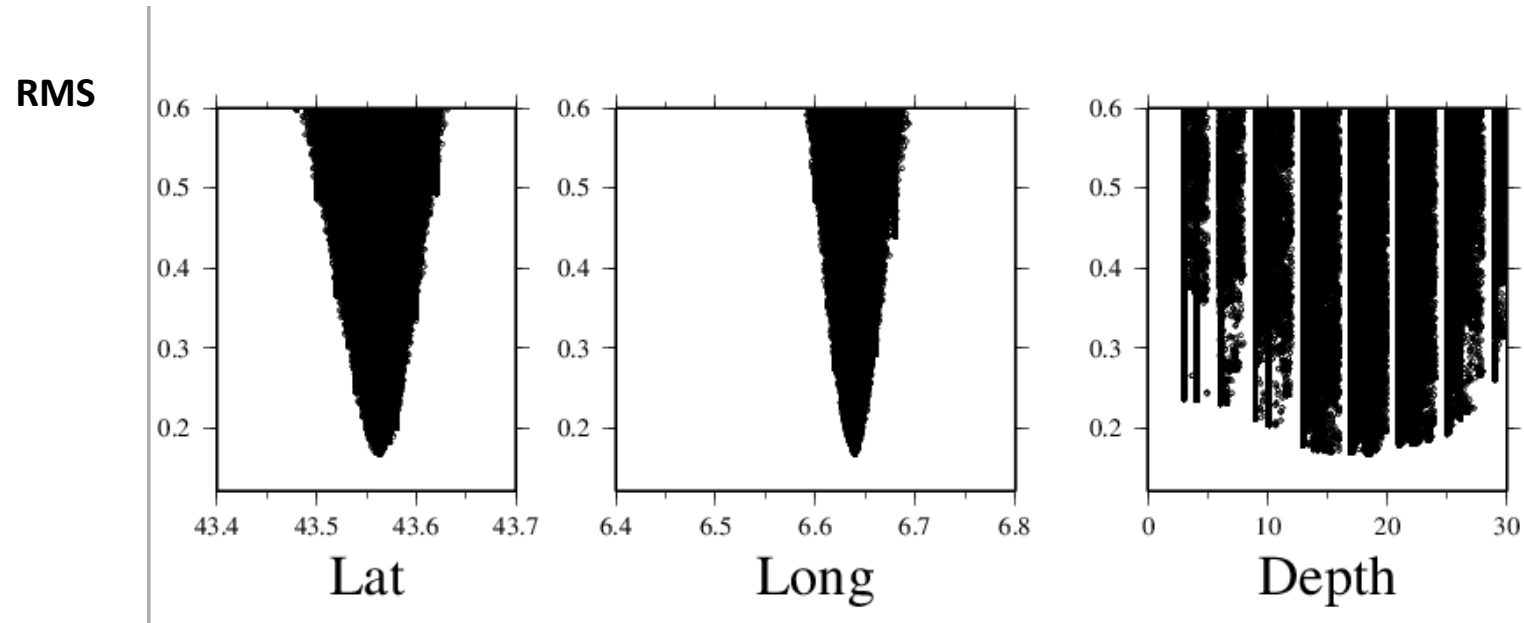


**Séisme du VAR du 18 février 2018 04h47 UTC MI 3.5  
(Mw 3.2)**

# Localisation par grid search + recuit simulé avec variation du modèle de vitesse et de $V_p/V_s$

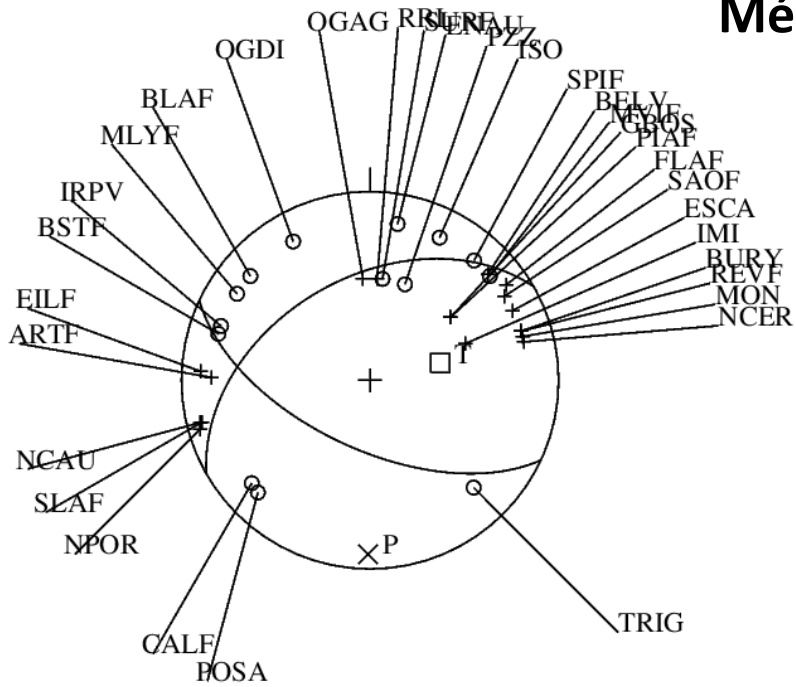
(12 modèles à 1 à 3 couches crustales, prof Moho entre 25 et 35 km,  $V_p/V_s$  entre 1.7 et 1.76)

Avec stations dist epic < 80 km



**Conclusion: épicentre bien contraint, mais profondeur entre 12 et 20 km**

# Mécanisme polarités onde P

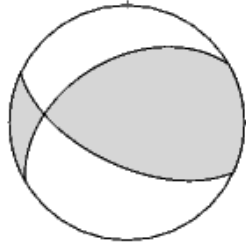


CRUSTAL VELOCITY	MODEL DEPTH
4.750	0.000
5.000	2.000
5.250	5.000
5.500	8.000
5.750	12.000
6.000	16.000
6.250	20.000
6.500	24.000
6.750	28.000
8.000	32.000

DATE: 0 0 0 4 47 0.0  
 LAT= 43.5715  
 LON= 6.6345  
 PROF= 15.00  
 T0= 21.74  
 RMS= 0.329

strike: 240.2  
 dip: 44.8  
 rake: 44.8

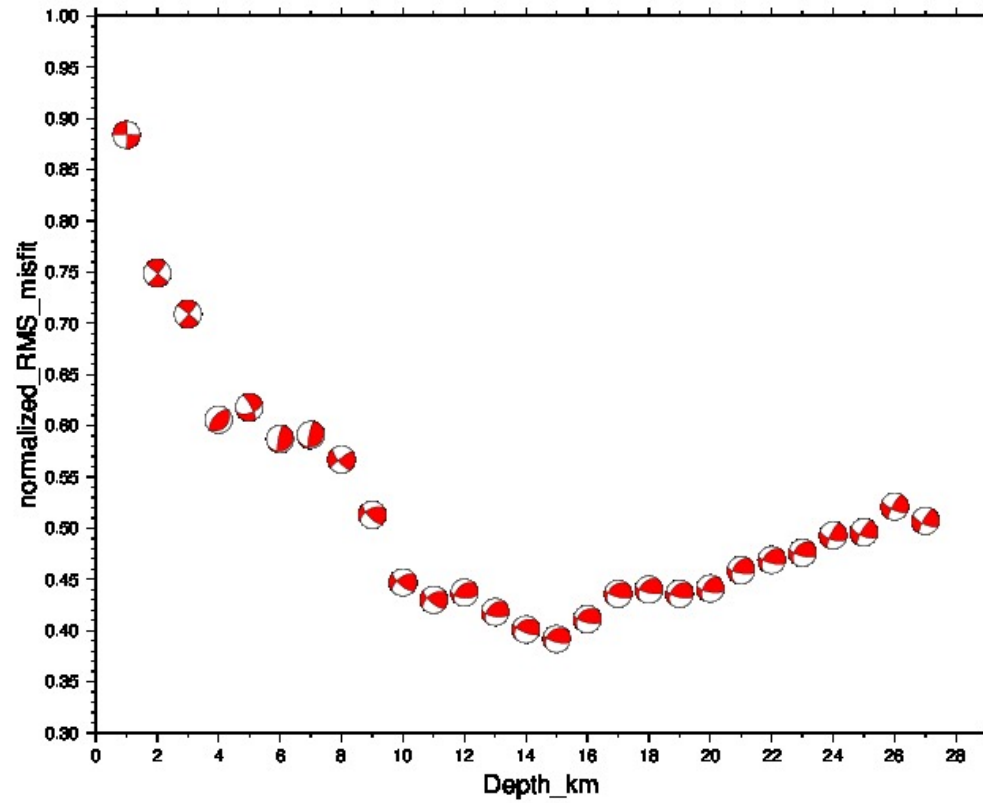
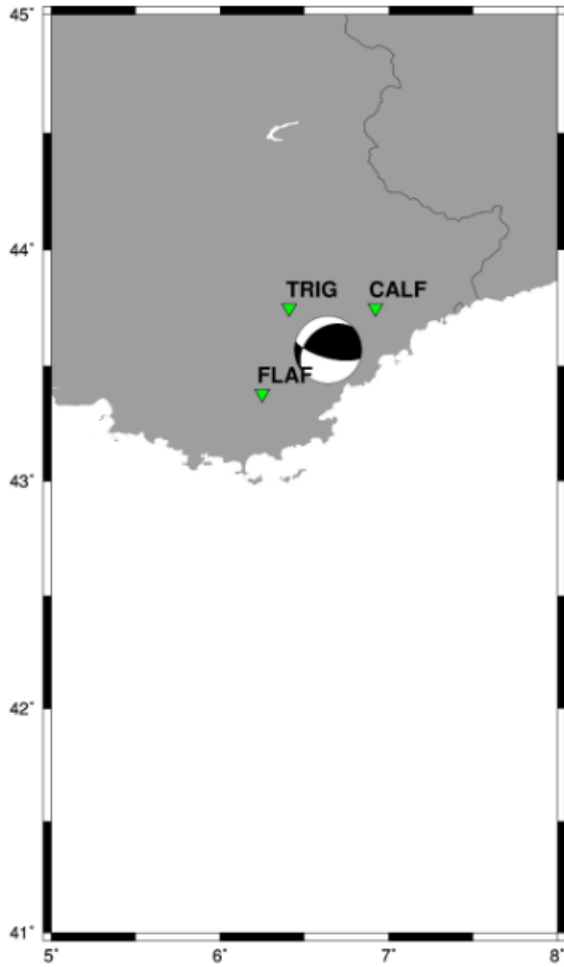
strike dip rake  
 240. 45. 45.



STA	DIST	AZM	AIN	POL	P-SEC	TPCAL	P-RES	WT	S-SEC	S-RES	WT
ARTF	66.9	271	73	U	34.24	12.55	-0.05	0	42.22	-0.48	3
BLAF	63.5	311	73	D	33.88	11.99	0.15	0	41.65	-0.11	2
BSTF	83.9	287	73	D	36.78	15.39	-0.34	0	46.89	-0.54	2
CALF	30.7	48	108	D	28.80	6.43	0.64	0	33.00	0.53	2
EILF	40.2	93	101	U	30.16	8.03	0.39	0	35.34	0.19	2
ENAU	60.9	10	73	D	33.25	11.55	-0.04	0	41.06	0.03	3
ESCA	66.2	64	73	U	34.03	12.45	-0.15	0	42.55	0.03	2
FLAF	37.2	235	103	U	29.66	7.51	0.41	0	34.51	0.22	2
ISO	75.8	26	73	D	35.47	14.04	-0.31	0	44.53	-0.65	2
MLYF	83.7	303	73	D	37.10	15.36	0.00	0	47.83	0.44	2
MON	66.1	74	73	U	33.92	12.43	-0.25	0	42.25	-0.25	2
MVIF	55.2	49	73	D	32.47	10.60	0.13	0	39.46	0.02	2
OGAG	135.4	356	45	U	44.68	22.33	0.61	4	61.34	2.32	4
OGDI	68.2	331	73	D	34.63	12.77	0.12	0	43.43	0.36	3
PIAF	99.6	52	45	U	39.07	17.85	-0.52	4	51.03	-0.52	4
REVF	61.9	72	73	U	33.43	11.72	-0.03	0	41.32	0.01	3
SAOF	87.3	58	73	U	37.04	15.95	-0.65	4	47.90	-0.48	4
SPIF	72.4	41	73	D	34.88	13.47	-0.33	0	44.02	-0.22	2
SURF	102.0	8	45	D	39.96	18.16	0.06	4	0.00	0.00	4
TRIG	26.8	316	112	D	28.37	5.78	0.85	0	31.92	0.53	3
BURY	78.0	72	73	U	35.71	14.40	-0.43	0	45.54	-0.25	2
GBOS	122.2	52	45	U	42.32	20.67	-0.09	4	57.22	0.95	4
PCP	187.2	54	45		50.31	28.81	-0.24	4	75.00	5.15	4
PZZ	110.9	20	45	D	41.11	19.26	0.11	4	54.45	0.54	4
RRL	150.5	4	45	U	46.92	24.21	0.97	4	65.26	3.09	4
IMI	108.2	69	45	U	39.54	18.93	-1.13	4	53.51	0.16	4
BELV	74.0	48	73	U	35.13	13.73	-0.34	0	44.32	-0.36	2
IRPV	75.1	290	73	D	35.56	13.93	-0.11	0	44.64	-0.36	3
NCAU	48.0	76	98	U	31.35	9.37	0.24	0	37.64	0.25	2
NCER	54.9	76	73	U	32.37	10.55	0.08	0	39.53	0.17	3
NPOR	54.4	74	97	U	32.27	10.47	0.06	0	39.15	-0.07	3
SLAF	46.7	76	99	U	31.01	9.15	0.12	0	37.26	0.24	3
POSA	73.6	225	73	D	35.08	13.68	-0.33	0	43.80	-0.78	3

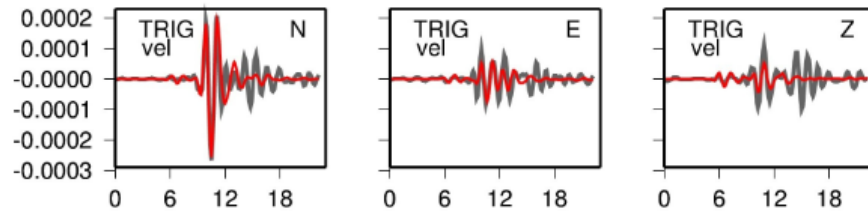
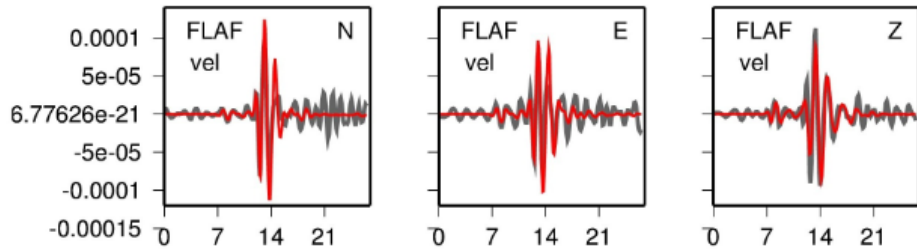
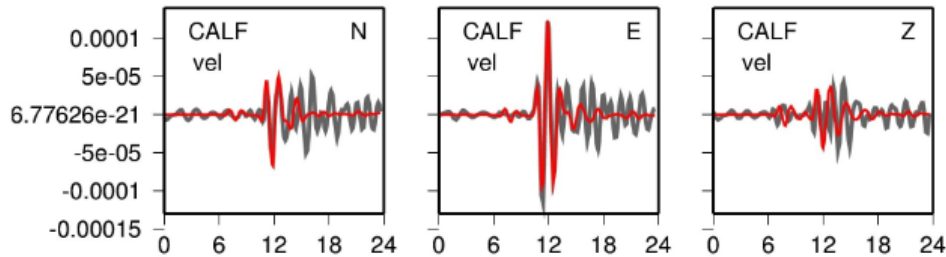
Avec un modèle de vitesse à 8 couches crustales pour simuler un gradient de vitesse avec la profondeur (plus réaliste pour calculer les angles d'incidence des rais)

# Inversion des formes d'ondes FMNEAR, avec 3 stations (page 1)



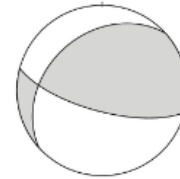
# Inversion des formes d'ondes FMNEAR, avec 3 stations (page 2)

Filtrage 0.5 – 1 Hz (avec corrélation des signaux)



X axis: time in seconds Y axis: displacement in cm  
 Grey line: observed Red line: computed

strike dip rake  
 105. 70. 118.



Qualité « D »  
 mais indice de confiance 71% et bon accord avec le mécanisme obtenu indépendamment par les polarités.

strike dip rake  
 105.0 70.0 118.0 : best focal mechanism

RMS = 0.392

Selected depth: 15.0 km

9 = number of components  
 71 % : index of confidence

3.15 : Mw from waveform inversion

Epicenter used (lat,long): 43.575 6.637  
 Starting depth(km): 15.0

strike dip rake of the second nodal plane:  
 227.8 33.9 37.8

\*\*\*\*\*  
 \*\*\*\*\* quality: D \*\*\*\*\*  
 \*\*\*\*\*

\*\*\*\* Signification of quality \*\*\*\*  
 A: focal mechanism STRONGLY CONSTRAINED  
 B: focal mechanism WELL CONSTRAINED  
 C: focal mechanism MODERATELY CONSTRAINED  
 D: focal mechanism WEAKLY CONSTRAINED  
 E: focal mechanism BARELY CONSTRAINED  
 F: focal mechanism NOT CONSTRAINED  
 \*\*\*\*\*