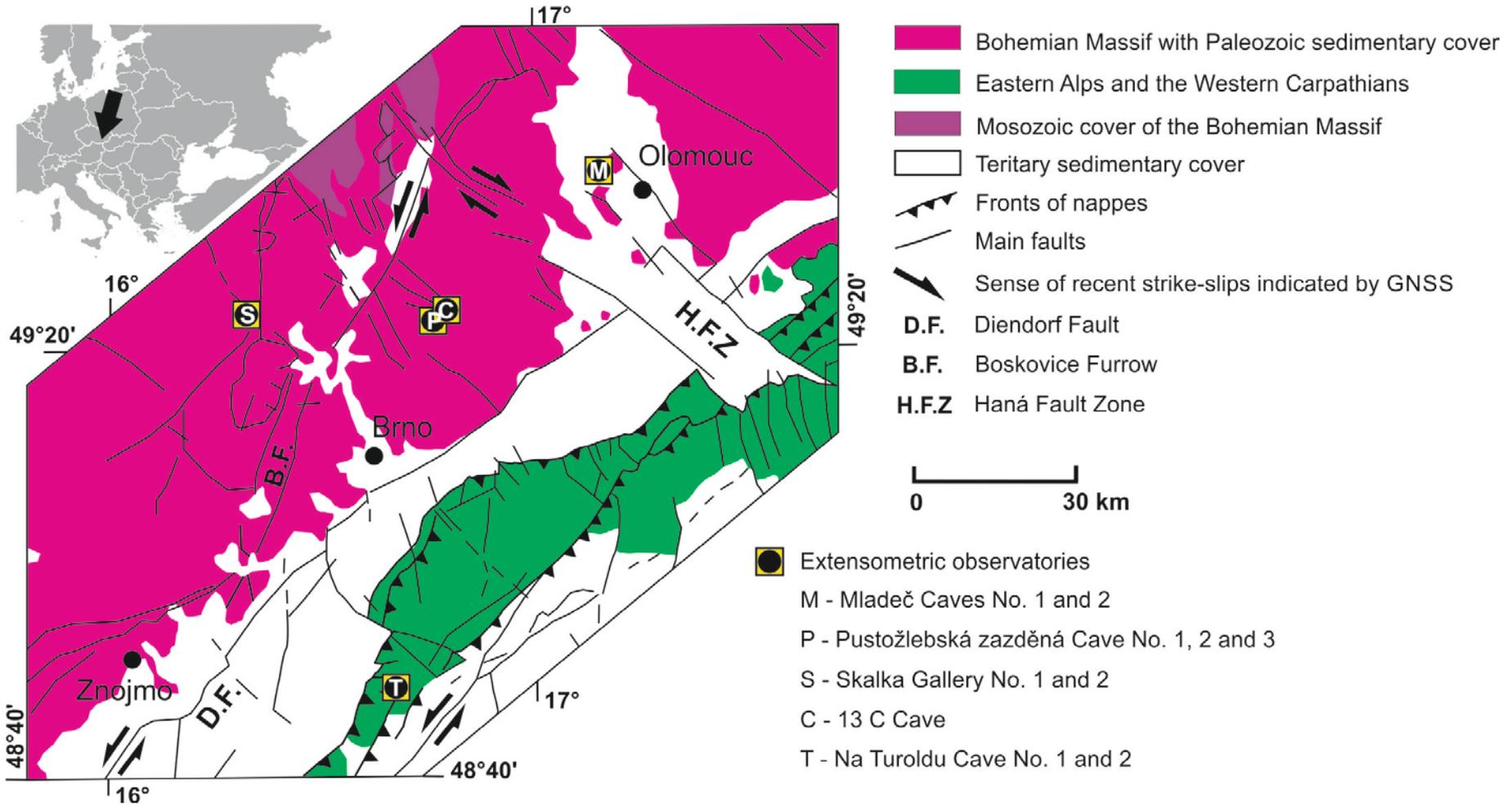




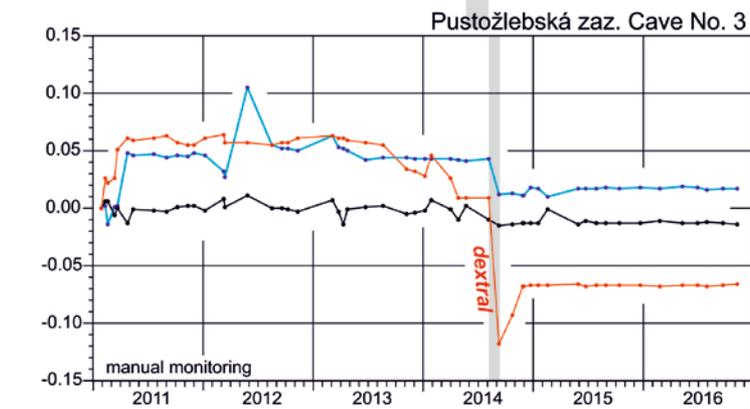
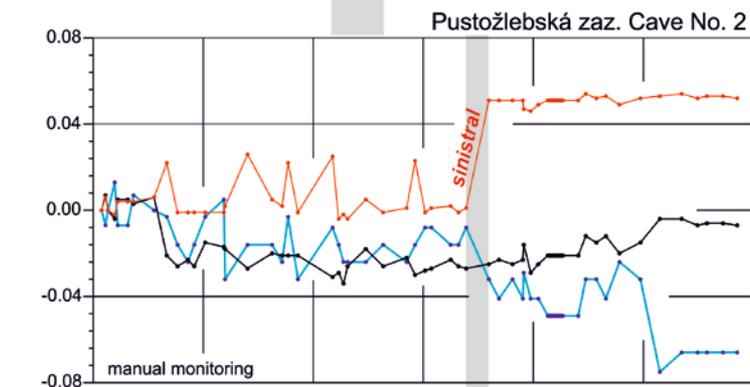
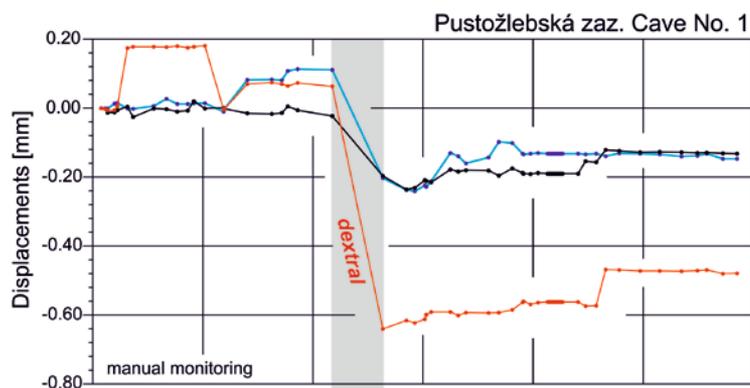
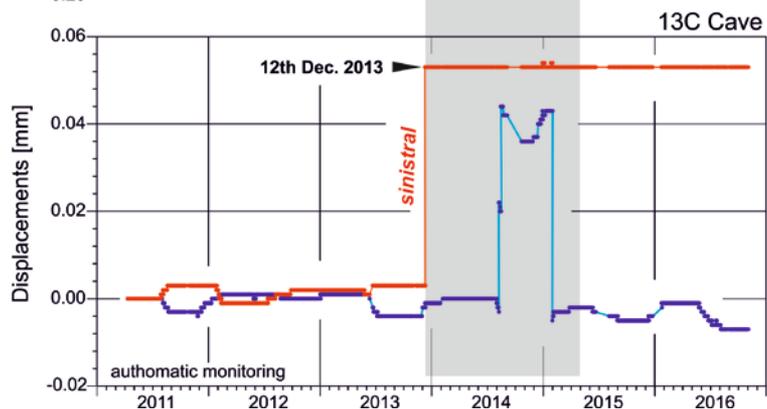
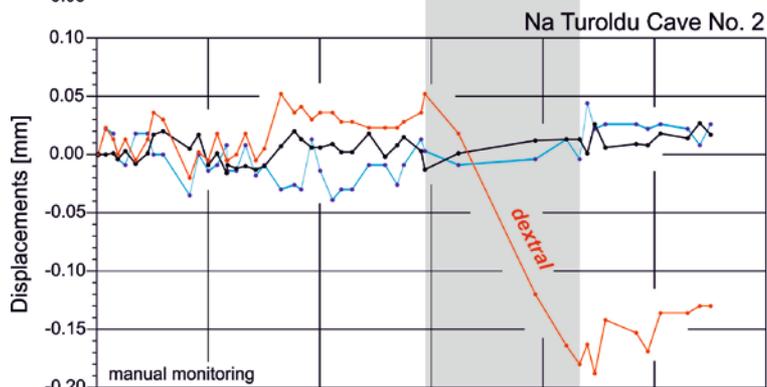
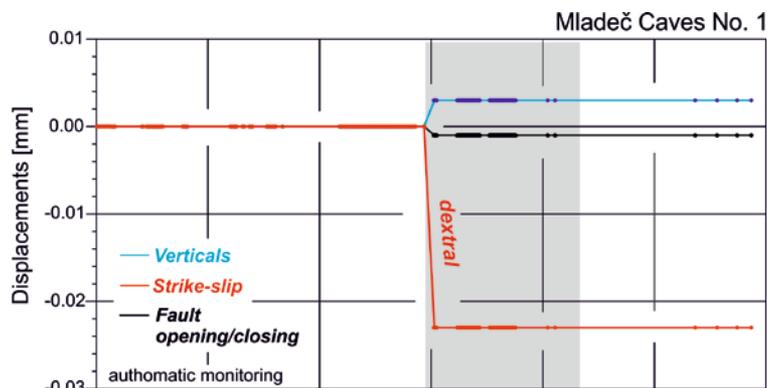
Tectonic strain changes recognised by fault slip monitoring along eastern border of the Bohemian Massif (TecNet)

Author: Miloš Briestenský

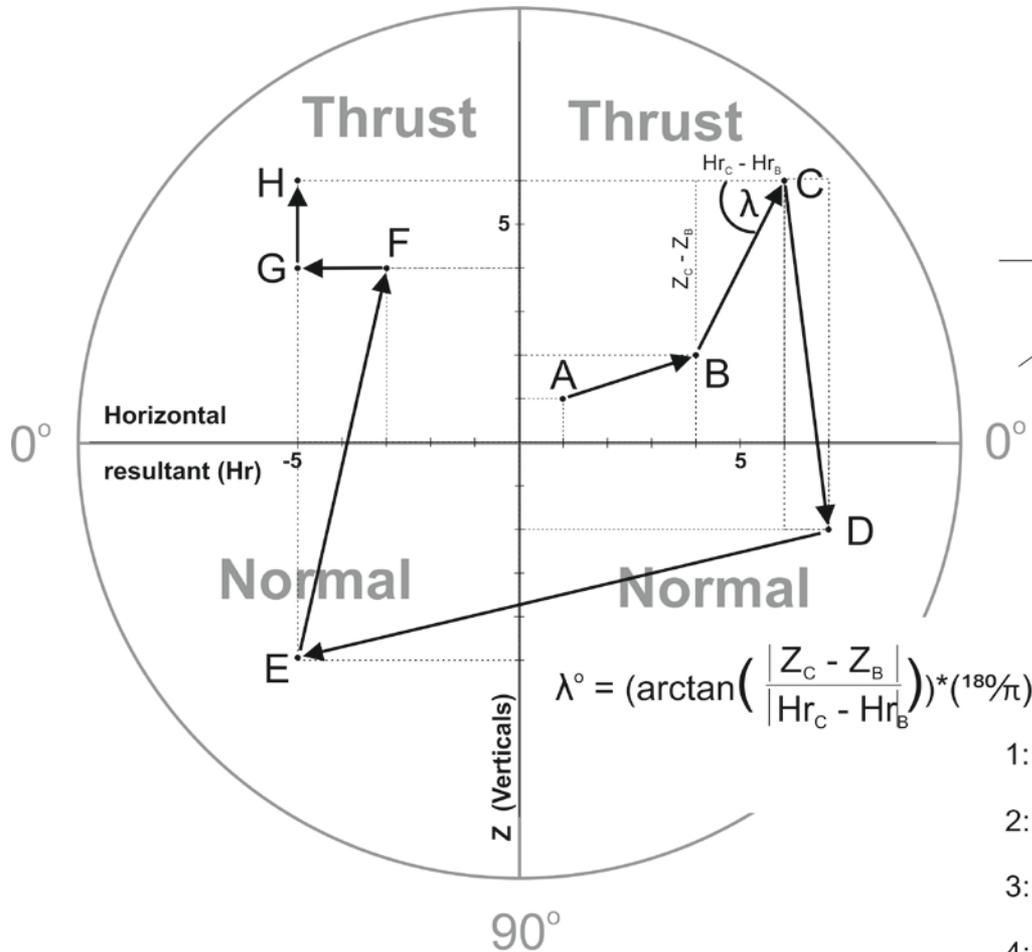
Extensometric observatories at eastern Czech Massif border



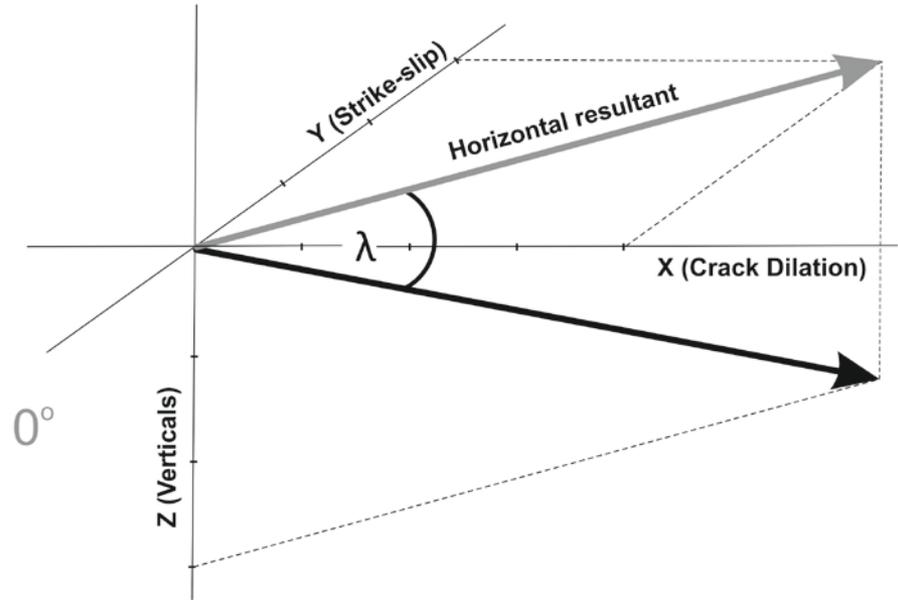
Results of extensometric observation



Transformation of plunge



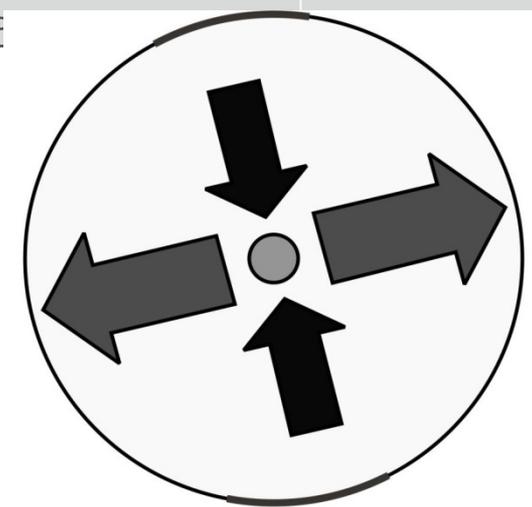
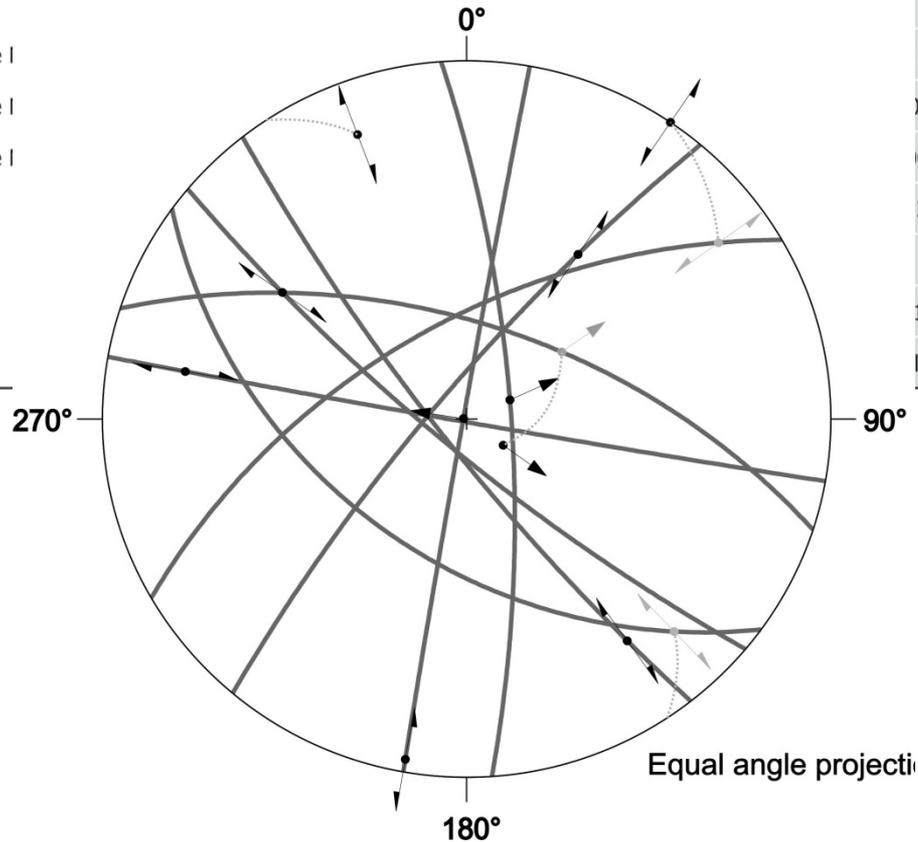
Just for case: +X = extension and +Z = thrust (reverse)



- 1: If $(Z_B = Z_A) \wedge (X_B > X_A) \wedge (Y_B = Y_A) \rightarrow \lambda = 0^\circ$ pure extension
- 2: If $(Z_B < Z_A) \wedge (X_B = X_A) \wedge (Y_B = Y_A) \rightarrow \lambda = 90^\circ$ pure subsidence
- 3: If $(Z_B = Z_A) \wedge (X_B < X_A) \wedge (Y_B = Y_A) \rightarrow \lambda = 0^\circ$ pure compression
- 4: If $(Z_B > Z_A) \wedge (X_B = X_A) \wedge (Y_B = Y_A) \rightarrow \lambda = 90^\circ$ pure reverse
- 5: If $(Z_B = Z_A) \wedge (X_B = X_A) \wedge (Y_B < > Y_A) \rightarrow \lambda = 0^\circ$ pure strike-slip

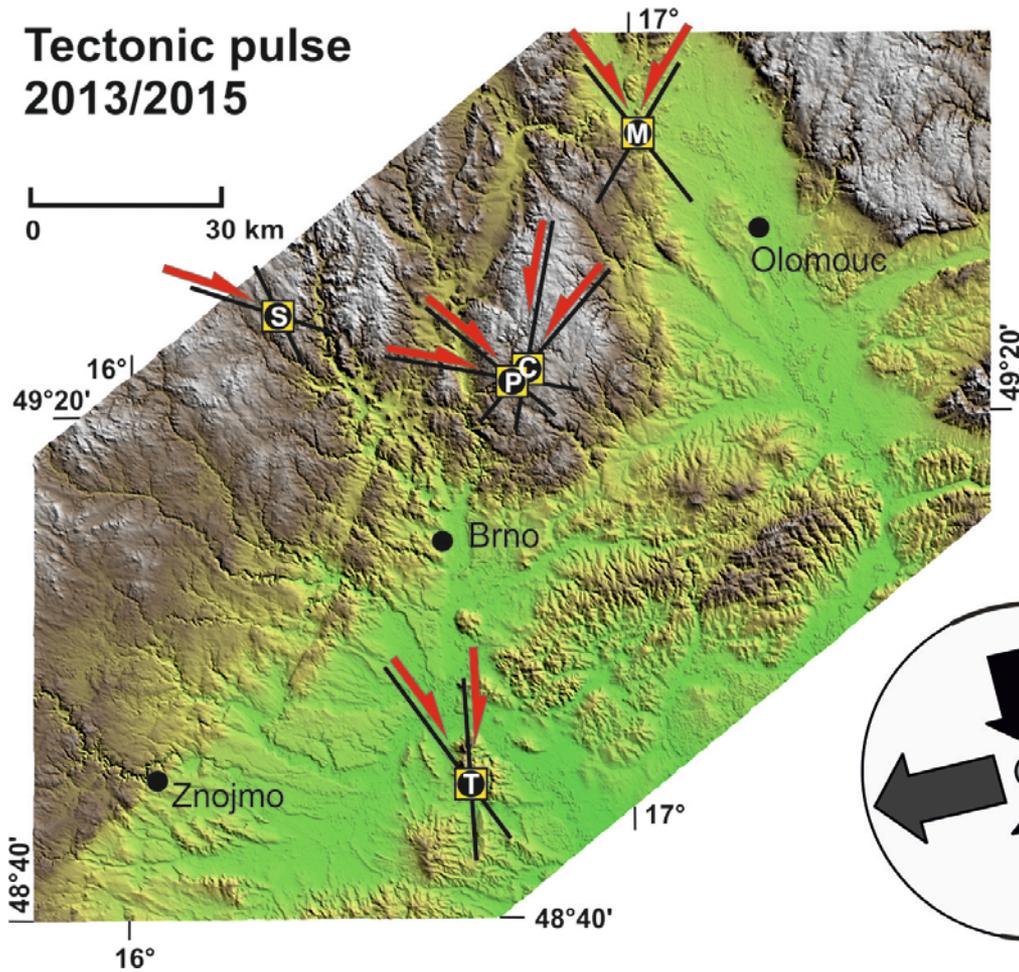
Results

Site No.	Site Name	Fault dip direction°→dip°	Sense of significant fault displacements during 2013/2015 period	azimuth°→plunge°
1.	Mladeč Caves No. 1	232°→81°	oblique (0.023 dextral, 0.003 mm NE block subsidence, 0.001 mm opening) / 2014	145°→15°
2.	Mladeč Caves No. 2	330°→60°	oblique (0.003 mm sinistral, 0.002 mm closing, 0.001 mm NW block subsidence) / 2013	214°→0°
3.	13C Cave	280°→89°	sinistral (0.05 mm) / 2013	197°→2°
4.	Pustožlebská zazděná Cave I			100°→85°
5.	Pustožlebská zazděná Cave I			174 mm opening) / 2013
6.	Pustožlebská zazděná Cave I			001 closing) /2014
7.	Skalka Gallery No. 334			04 mm opening) / 2014
8.	Skalka Gallery No. 410			36 mm dextral) / 2014
9.	Na Turoidu Cave No. 1			126°→76°
10.	Na Turoidu Cave No. 2			none
				13
				loc

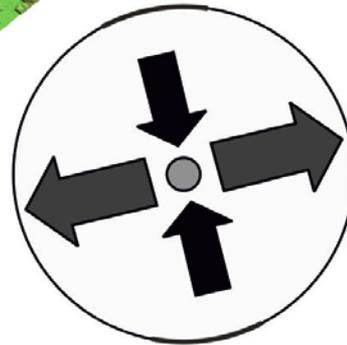
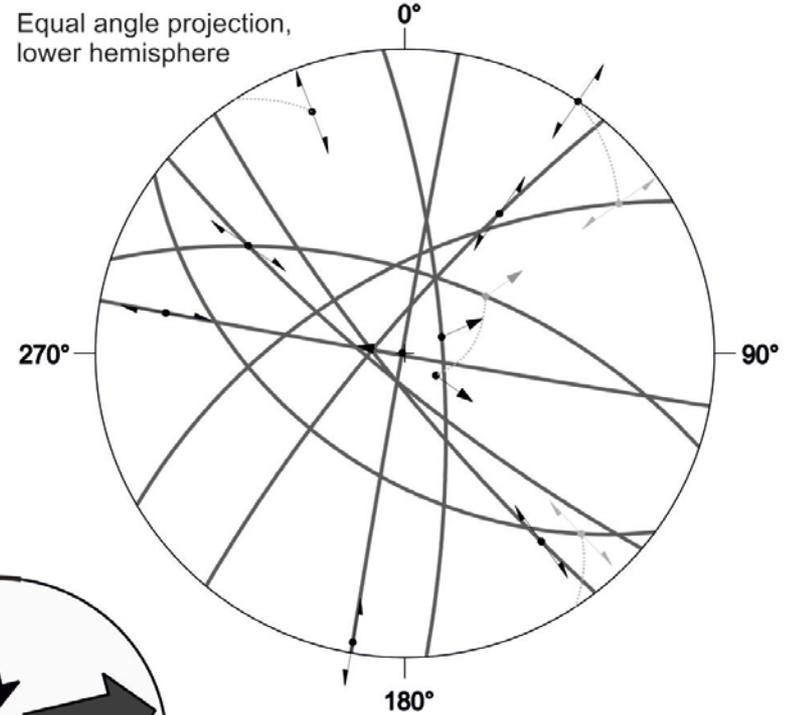


Results

Tectonic pulse 2013/2015



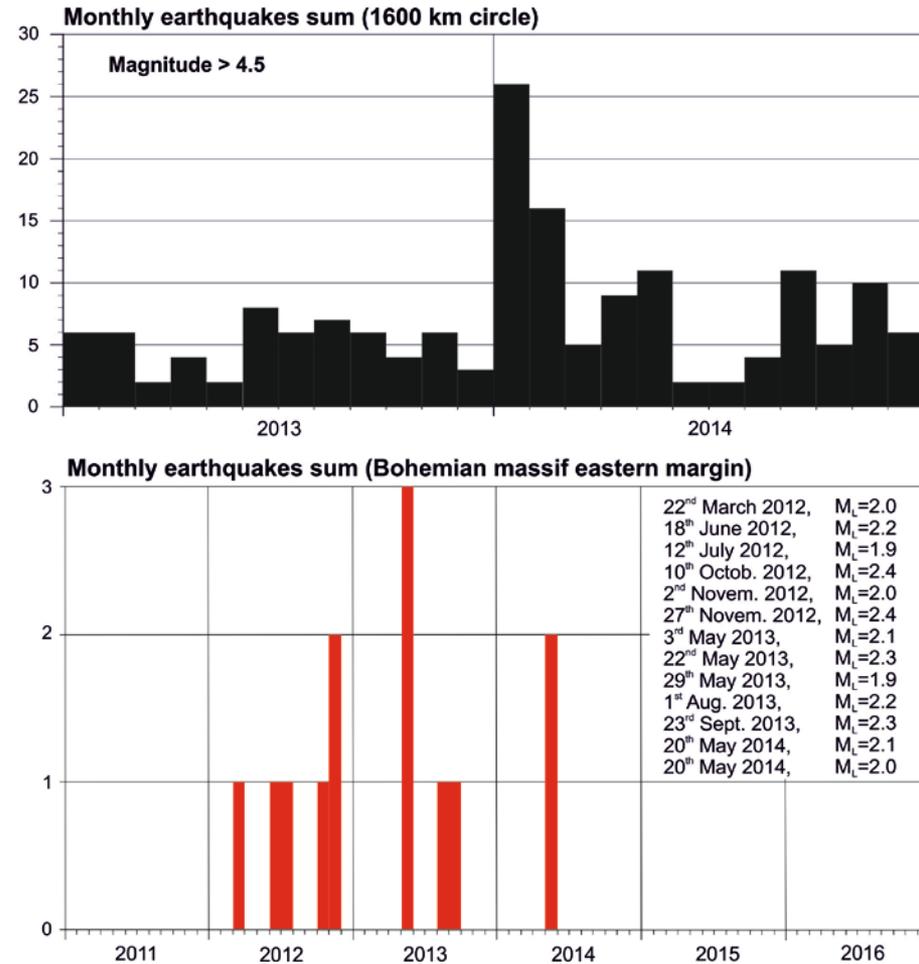
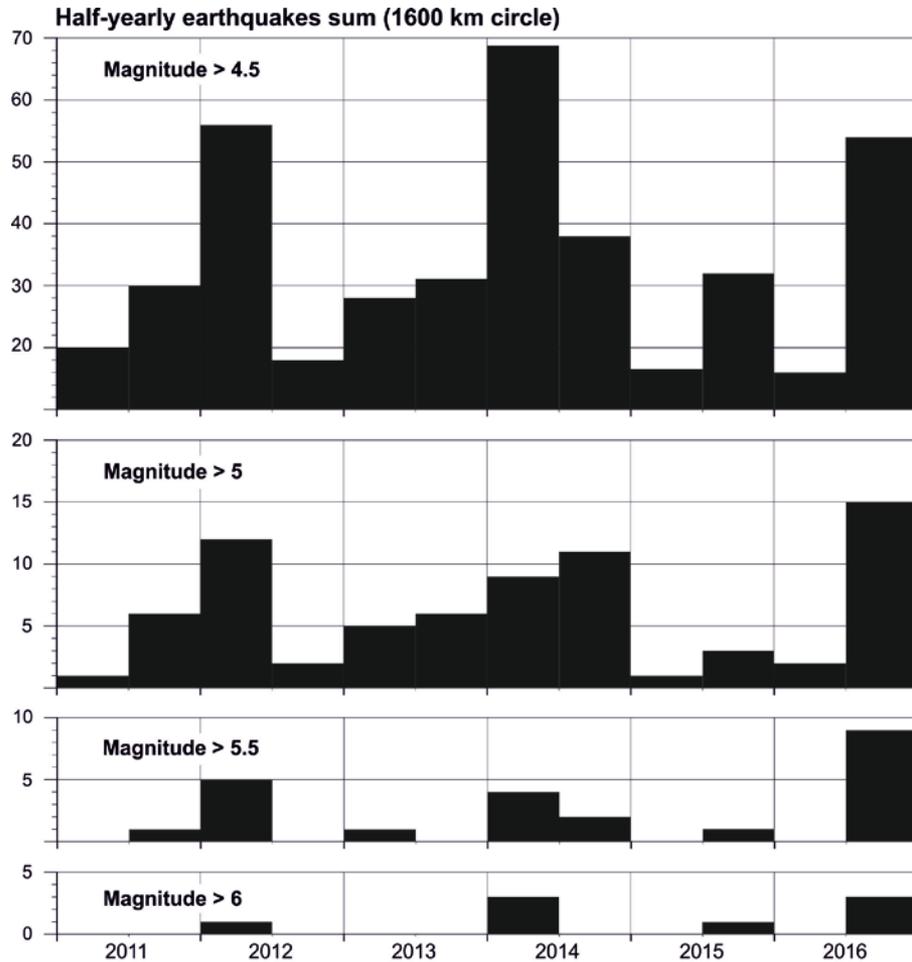
Equal angle projection, lower hemisphere



N total = 19 (9 planar + 10 linear)

- normal, n=3 (linear)
- ←• sinistral, n=3 (linear)
- ←• dextral, n=4 (linear)

Earthquakes vs. extensometric results



Summary:

- Tectonic regime of the eastern Czech Massive border has been noticeably affected since the end of 2013 until first half of 2015;
- Almost all local extensometric observatories displayed simultaneous anomaly during the period;
- Extensometers help to define stress field.

Thank you for attention