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Seismic anisotropy of the north east Algeria from shear wave splitting analysis. Preliminary results

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The deformation in northern Algeria results of the collision between the Eurasian and African plates. In northern Algeria, the study of the seismic anisotropy leads to constrain deformation mechanisms of the lithosphere in this region. Because of the recent installation of several BB stations in the northeastern part of Algeria, belonging to the Algerian seismic network, we start to conduct a such study. These stations installed in Constantine (CSVB), Guelma (CABS), Khenchela (CBBR) and Setif (CKHR) covered a large area from the tellian geological units to the saharian atlasic units in the south

For this and taking into account the records of several teleseismic events recorded by these stations during an average of three years for three of them, the measure of the splitting parameters using the SplitLab software, made this study possible.

Shear wave splitting results obtained from the analysis of teleseismic SKS and SKKS phases recorded shows that the fast direction is 850 about North and dt =0.8s for CABS station of Guelma, the same as the one obtained by Andreas W et al 2009 " identifying global seismic anisotropy patterns by correlating shear-wave splitting and surface-wave data", for CKHR station, there are two quick directions 880 and 2850 corresponding time difference 1.1s and 06s successively, the third station CBBR, the direction of the anisotropy is 780 and dt = 1.8s, and the last station CSVB, the fast direction is 720 and dt = 1.7.