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Periodic components of GPS time series of selected permanent stations estimation using wavelets, and jumps detection using innovation vector of Kalman filtering.

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The movement that is observed at GPS permanent stations is a result of many factors. The largest observable effects are periodic effects. In this case wavelets algorithm was used for calculation periodic characteristics for stations of CEI countries. Additionally, jumps detection was made and if existing its influence on the movement characteristics.

There has also comparison been made to determine if these components has same global origin or are there any local conditions that affects them.

Data from following stations was used; BOGO (Borowa Góra), JOZE (JózefosŁ aw), KRAW(Kraków), LAMA (Lamkówko), WROC (WrocŁ aw), ZYWI (Żywiec),DRES (Dresden), POTS (Potsdam), GOPE (Ondrejov), TUBO (Brno), BISK (Biskupska Kupa), SNEC (Śnieżka) and MOPI (Modra-Piesok).

Periodic components were computed with use of wavelet algorithm implemented in MATLAB® environment. Jumps detection was made with use of own procedures implemented in MATLAB® environment.