



## **Local, regional and global signals in longterm time series of gravity, tilt and strain at the Geodynamic Observatory Moxa/Germany**

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For the past 15 years geodynamic signals in gravity, tilt and strain are recorded continuously at the Observatory Moxa in Thuringia/Germany. In the period range between minutes and years signals of interest are the free modes of the Earth, the tides, the polar motion with the Chandler Wobble up to the very long- and non-periodic effects. These global signals can be overlain or masked by local signals, caused by sources in the nearby surroundings of the observatory. These recorded local signals originate from fluctuations of meteorological and hydrological parameters as well as by anthropogenic effects. Modelling and elimination of the effects of environmental parameters in the time series are a great challenge for geodynamic observatories worldwide. For the past several years, the work at the Observatory Moxa is focusing on the separation of local, regional and global parts of the signals. Here, we present several signals in gravity, tilt and strain, e.g. barometric pressure, precipitation and groundwater level, separated from our time series, showing the broad application in geodynamics.