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Modeling non-linear motion of geodetic stations

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Accumulation of long site position time series led to realizing that some stations exhibit non-linear motion caused by equipment changes, systematic errors and actual displacements due to environmental changes or seismic events. For modeling such position an approach of estimation of the coefficients of expansion the site positions in the basis functions. The specific choice of basis functions is discussed. Results of analysis of VLBI observation using this approach are presented. Stations HRAS_085, GILCREEK, TATEYAMA, MIURA which exhibit strong non-linear motion are considered in more details.