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Using BeiDou system for precise positioning in central Europe

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In 2012 the Chinese navigation satellite system called BeiDou System (BDS) has reached the regional operational capabilities over the area of East Asia. Currently the BDS system consists of 5 medium orbit satellites MEO, 6 geosynchronous satellites IGSO and 5 geostationary satellites GEO and provides regional coverage by its navigation signals. Also in Europe BDS satellites can be used to determine position. In 2015 the third phase of BSD system development has started, aimed at providing global coverage and compatibility with other GNSS systems. As a result, BDS will broadcast signals at the same frequency as GPS L1 and L5 and Galileo E1, E5a and E5b.
In the presented research we carried out relative positioning using the MAFA method. This was the first time when this method was applied to process BDS signals. The results show that it is possible to obtain precise position in central Europe using BDS signals only. However, with its current constellation, this is not possible 24/7, but in periodic time windows.