



Functioning analysis of reference station in Hornsund and its possibilities of usage in geodynamic research of Spitsbergen

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Poster presents the analysis of observations collected during the measurements made by two reference stations working in surroundings of the Polish Polar Station in Hornsund. One of them, ASTR station has been working since 2005. Its functioning in the first period indicates significant multipath effect caused by the proximity of facilities of the Polish Polar Station. The effect occurred to be high enough to decide about the change of location of the antenna, which was possible only after completion of the building works of the polar station. During the expedition in 2008 the final location of the reference station, where conditions comply with the requirements, was chosen. So, the second station – HORN – was started, and series of test measurements were conducted, which allowed to determine the position of the station and to analyze GNSS signal quality. The poster presents comparative analysis of the observations collected by the old (ASTR) and new (HORN) localisation of antenna and contains description of the surroundings of the antenna and their influence on the multipath effect.

Authors present as well the possibility of usage of the reference station in scientific research conducted nearby the Polish Polar Station in Hornsund. Moreover, the poster presents a concept of establishment of “the system of reference stations around Spitsbergen” and possibilities of participation of the planned system in global environmental and geodynamic research.