



Experiences of RTK Positioning in Hard Observational Conditions During Nysa Klodzka River Project

M. Bakula, (1) S. Oszczak (1)

University of Warmia and Mazury, Chair of Satellite Geodesy and Navigation, 5 Heweliusza St., 10-957 Olsztyn, Poland, (Tel.: +48-89-523-4746; Fax.: +48-89-523-4723)

The paper presents the application of RTK technology for measuring the horizontal and vertical cross-sections of the Nysa Klodzka River located in the southern part of Poland. GPS measurements were performed by the staff of Chair of Satellite Geodesy and Navigation of University of Warmia and Mazury in Olsztyn in cooperation with the team of the OPeGieKa Wroclaw company. The measurements had been done for 30 days during August and September 2004. Three GPS receivers were used such as two Ashtech Z-Xtreme and one Ashtech Z-Surveyor. The radio modems Sateline of SATEL company were used for transmitting RTK corrections from a reference station to rovers. RTK measurements were being performed in very difficult observational conditions like in heavy shrubbery or under trees. It was excellent occasion to test reliability and accuracy of RTK positioning in practice. In general, the use of RTK technology in woodlands and rural terrain extremely improved efficiency of works, but gross errors were being occurred from time to time in very severe conditions of GPS observations due to the lack of good satellite geometry and availability.