



## **GPS scintillation monitoring in Antarctica: first campaign at the Italian station “Mario Zucchelli”**

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Following encouraging results achieved after more than two years of continuous and systematic observation of the high latitude ionosphere over Svalbard (Norway), the INGV has installed a GPS TEC and scintillations receiver in Antarctica, at the Italian station “Mario Zucchelli”. The instrument is a GISTM (GPS Ionospheric Scintillation Monitor) and consists of a NovAtel OEM4 dual-frequency receiver with special firmware, comprises the major component of a GPS signal monitor, specifically configured to measure amplitude and phase scintillation from the L1 frequency GPS signals, and ionospheric TEC from the L1 and L2 frequency GPS signals. The aim of the first Antarctic campaign was to test both the robustness of the system under extreme environmental conditions and the remote control and data acquisition from Italy. After the first test the final goal is to maintain permanent stations over both the poles to monitor the auroral and polar ionosphere, strongly sensitive to the formation of small scale irregularities of the plasma causing scintillations on trans-ionospheric signals. This presentation would contribute to the polar ionosphere monitoring in the frame of the activities planned for the IPY 2007-2008 throughout the UAMPY Consortium (idea 551) now included in the ICESTAR/IHY core project.