



Global and regional reference system realization based on reprocessed GPS data: The Antarctic case

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Based on a homogeneous reprocessing of global GPS data dating back to 1994 the TRF realization for the Antarctic SCAR GPS network will be discussed.

For this purpose, we present the modelling and analysis approach applied within the GPS data processing. Following the approach for the global Terrestrial Reference System realization we discuss concepts for regional densifications with special focus on the Antarctic region. The main focus concerns the question on how to combine a regional and a global station network in an optimal way.

Accuracy and consistency are discussed with regards to those station coordinates and velocities which are obtained from both global and regional network solutions. Our results confirm the essential need for a stable global reference frame to allow a reliable geophysical interpretation. The applied approach is valid also for other regional applications.