



On the Strategy of Simulating a GGOS Network

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GGOS-SIM ("Simulation of the Global Geodetic Observing System") is a joint project of the TU Berlin (TUB) and the GFZ German Research Centre for Geosciences. GGOS-SIM aims at creating a tool to simulate the realization of the Terrestrial Reference System from the space-geodetic observations space geodetic techniques: Doppler Orbitography and Radiopositioning Integrated by Satellite (DORIS), Global Navigation Satellite System (GNSS), Satellite Laser Ranging (SLR), and Very Long Baseline Interferometry (VLBI). In particular the effects of the space segment, the ground network, the local ties on ground and in space, and technical developments shall be assessed with respect to the goals of GGOS, i.e. point positions with 1 mm and velocities with 1 mm/a accuracy globally. For this we set up the observation scenario which consists of the ground networks, the space segments, and the observation types. We discuss our set-up of the standard networks of each space-geodetic technique and their space segments, and we infer accuracy and availability of the observations from real world data. Then we describe the strategy on how the simulations can be conducted so that the results become realistic. This also concerns the trade-off in choosing the dynamic, geometric, and correction models for simulation and recovery