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Precise orbit determination of COSMIC/Formosat-3 satellites for radio occultations

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The U.S.-Taiwan COSMIC/Formosat-3 GPS (Global Positioning System) radio occultation (RO) mission is a constellation of 6 satellites, which was launched on April 14, 2006. GFZ Potsdam has long year experience in processing GPS RO data for CHAMP and GRACE and operates related fully automated processing systems. A major part of these systems is the generation of precise satellite orbits for the GPS and Low Earth Orbiting (LEO) satellites. For our study the orbit determination system was extended for the processing of the 6 COSMIC/Formosat-3 satellites. We present details of the processing methods for the Satellite to Satellite tracking data (SST) and first results for COSMIC precise orbit determination. Our results are compared with precise orbit results (SP3) provided by the University Corporation for Atmospheric Research (UCAR) in Boulder.