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Status and Multi-Disciplinary Applications of the GRACE Mission Measurements

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The twin satellites involved in the joint NASA/DLR mission GRACE were launched on March 17, 2002 and initiated scientific measurements in May 2002. The mission completed a five-year measurement sequence in May 2007. The purpose of the GRACE mission is to measure the time-variability and long-term mean mass distribution of the Earth's dynamic system. During the five-year interval, GRACE has provided global measurements of mass flux between the land, ocean, atmosphere and the cryosphere with un-precedented detail and accuracy. During the 2007 year, a completed update of the background models and a reprocessing of the five-year data set was completed. This release referred to as RL 04 provides the basis for the latest data products. In this presentation, we will summarize the status of the mission and the improvements made in the Level 1 and Level 2 data products. Initial results from the RL04 evaluation and describe plans for future product evaluation, calibration and evolution. Finally, we will survey the state of the multi-disciplinary science applications of the GRACE mission that are being contemplated in conjunction with various satellite missions (TOPEX/Poseidon, Jason-1, ICESat, GOCE).