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## Preliminary monthly gravity field models from kinematic orbits of SWARM Satellites

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Although the Gravity Recovery and Climate Experiment (GRACE) and GRACE Follow-On (GRACE FO) satellite missions play an important role in monitoring global mass changes within the Earth system, there is a data gap of about one year spanning July 2017 to May 2018, which leads to discontinuous gravity observations for monitoring global mass changes. As an alternative mission, the SWARM satellites can provide gravity observations to close this data gap. In this paper, we are dedicated to developing alternative monthly time-variable gravity field solutions from SWARM data. Using kinematic orbits of SWARM from ITSG for the period January 2015 to September 2020, we have generated a preliminary time series of monthly gravity field models named Tongji-Swarm2019 up to degree and order 60. The comparisons between Tongji-Swarm2019 and GRACE/GRACE-FO monthly solutions show that Tongji-Swarm2019 solutions agree with GRACE/GRACE-FO models in terms of large-scale mass change signals over amazon, Greenland and other regions. We can conclude that Tongji-Swarm2019 monthly gravity field models are able to close the gap between GRACE and GRACE FO.