عنوان مقاله:

Determining the best GRACE-like mission characters to determine the co-seismic signals

محل انتشار:

اولین کنفرانس بین المللی و دومین کنفرانس ملی فناوری ها و کاربردهای نوین ژئوماتیک (سال: 1399)

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خلاصه مقاله:

The gravity field of the planet earth has temporal variations and our instruments are unfortunately defective and imperfect to measure that. Therefore, our knowledge of the gravity field of the earth is not complete. After launching the satellite gravity, gravity data has been collected with remarkable quality. One of the changes that happen under the surface of the earth is mass movement which occurs as a result of several earthquakes. In the case of using couple satellites, we would be able to achieve an additional amplification of the gravity signal through inter-satellite tracking between two low orbiters. In this paper five scenarios are simulated and compared with one another. The observations made by GRACE and GRACE-FO scenarios have better susceptibility to sense earthquake signals. Even though it is agreed that, other scenarios may have stronger susceptibility to receive signals. Here, the Maule (۲۰۱۰) earthquake with ۱۹ degree in strike angle is used as an example. Therefore, the impact of direction of the fault on detection of coseismic signals supposed that another earthquake occurred in Maule position with exactly the same specifications but with hypothetical strike angle of ۹۰ degrees. The difference in degree obtained was as a result of satellite track almost along the perpendicular fault direction. Hence, it is intended to detect whether the fault direction will produce a different result or not. It is concluded that the GRACE and GRACE-FO are the best scenarios to detect coseismic signals in this study. All the data used in this paper are the simulated format of Level-۱B.

کلمات کلیدی:

GRACE, GRACE-FO; Helix, Pendulum, Cartwheel, Earthquake signal, Gravity changing, Satellite gravity

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