Foreword

The Gravity field and steady-state Ocean Circulation Explorer (GOCE) satellite by European Space Agency (ESA) was launched on March 17th, 2009, and re-entered the Earth's atmosphere falling into the ocean on November 11th, 2013. Its objectives were to measure the Earth's gravity field with an accuracy of 1 mGal (one millionth of the Earth's gravity) and the geoid with an accuracy of 1-2 cm at a spatial resolution of 100 km. Up to the early 2015, five releases of GOCE-only and joint GRACE and GOCE models had been made available since the first release in 2010.

The Joint Working Group 2.3 (JWG 2.3) between the International Gravity Field Service (IGFS) and the Commission 2 of the International Association of Geodesy (IAG) for 2011-2015, "**Assessment of GOCE Geopotential Models**", has performed assessments of the GOCE-, GRACE&GOCE-based satellite-only and combined models for the past four years. This special issue of *Newton's Bulletin* consists of 12 peer-reviewed assessment papers on these GOCE-based models using independent data: GPS-levelling, terrestrial gravity, astronomic deflections of the vertical, digital elevation models and satellite laser ranging observations. It is complementary to recent IAG symposium and the GOCE user workshop proceedings, providing valuable assessments for both users and developers of the GOCE models.

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