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New gravity and magnetics map of eastern part of Azores

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The Azores are of volcanic origin and the volcanic activities are still occurs in the area. The main tectonic features in the eastern part of Azores are the Gloria Fault (GF) and São Miguel volcanic Island. The GF is an E-W strike-slip fault and can be traced by bathymetry.
In the past decade many geological and geophysical investigations were dedicated to the study of tectonic features in the eastern part of Azores. Two of these cruises were organized by the Institute of Geophysics, University of Hamburg, Germany, in the years 2009 and 2012.
In 2009 during the Meteor cruise M79-2 a total of 5500 km new Gravity and 2000 km new magnetic data were collected along some 60 Profiles. During the Poseidon cruise in the year 2012 some 2000 km new gravity and magnetic data were collected along two E-W profiles in the eastern part of Azores.
The new gravity data were recorded with the modern Air-Sea-Gravimeter of Bodenseewerk KSS 31M and the new magnetic date with the Gradiometer SeaSpy.
All new potential date were combined with the available data of the data base GEODAS and the new gravity anomaly maps (Free-Air and Bouguer) and the new magnetic anomaly map were produced.
The maps show clearly the tectonic features in the area. The GF can be traced very well on both gravity and magnetic anomaly maps. Most of the small hills around the São Miguel Island are shown up in the magnetic anomaly map as strong magnetic anomaly.
The new gravity and magnetic maps and the interpretation of them will be presented. The results of some 2-D modeling along some interesting profiles will be also presented and discussed.