



## **Crust and upper mantle structure across the Beata Ridge (Hispaniola Island) from a wide angle seismic profile.**

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The Beata Ridge is an NE-SW trending structure located in the interior of the Caribbean plate, between the extended Colombian and Venezuelan basins. The northern part of the ridge is ~100 km-wide and emerged (Sierra de Bahoruco in the Hispaniola Island) and the southern part is ~350 km- wide and > 4000 m below sea level. The northern part has collided with the E-W trending island arc. Such a way, the Hispaniola island arc is being impacted by collision with the Bahamas Bank in the north and by collision with the Beata Ridge in the south. This collision processes jointly with the main E-W component of left-lateral strike-slip have yielded the basin and range physiography observed in the Hispaniola island.

A combined onshore-offshore CARIBE NORTE survey has been carried out in the Dominican Republic region to study the subduction and collision processes in this area. The marine geophysical cruise aboard the Spanish R/V Hespérides was carried out in Spring of 2009. The cruise collected multibeam bathymetry, gravity, magnetic, high-resolution seismic and three-channel seismic reflection data. In the frame of that experiment, a wide angle seismic profile was carried out across the Beata Ridge along a near NW-SE trending line of 200 km length. A set of 5 OBS were anchored along that transect on both sides of the Beata Ridge and 2 seismic land stations at the Beata and Alto Velo Islands, recorded continuously the airgun shots provided by the R/V Hespérides.

In this work, the more recent results from this Beata ridge profile are presented.