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Ocean bottom characterestics between Iles Rodrigues and Chagos-Maldives Archepelago in western Indian Ocean

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The geological and geophysical complexities in Indian ocean basin, pointed out by many earlier workers remained unresolved. Instead, taking aid from stop gap arguments, the data has been construed to follow plate tectonics format. The concept of large igneous complexes emplaced through crustal drifting (between the India and Mozambique) during later Mesozoic to Recent fail to address geophysical characteristics exhibited here. The geophysical signatures of the sub crustal part of the ocean here resemble to that of continental regions elsewhere. Granites, greenstones and mylonized gabbro, recovered from the western Indian ocean basin, rather give Late Pre- Cambrian and Paleozoic isotopic dates. Under this light, the present paper looks into the ocean bottom characteristics of a region between iles Rodrigues and Chagos- Maldives archipelago. The region has first order curvilienar fractures, with along which the crust has displaced more than 1000m. The sea-bottom topography of the region has been modeled in Geographical Information System environment using Modified ETOPO5 provided by National Institute of Oceanography. The spatial relationship of topography with gravity and magnetic data area are analysed visually and mathematically. The detail bathymetry, gravity and magnetic data give morphology similar to that of half graben formed on a felsic crust, which later has undergone basification / eclogitization through first order fracture zones.