

Tectonic history of the Rodriguez Triple Junction, Indian Ocean

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Southeast, Central, and Southwest Indian ridges meet at the Rodriguez Triple junction (RTJ). The half spreading rates of these ridges are about 3.0 cm/yr, about 2.5 cm/yr, and about 0.8 cm/yr, respectively. Some works presented that the configuration of the RTJ have been a stable Ridge-Ridge-Ridge(RRR) type (e.g., Tapscott et al., 1980). However several works after 1990 showed that the configuration is not stable. Michell and Parson (1993) indicated that there is an offset between SEIR and CIR at RTJ. Honsho et al. (1996) proposed the two modes of the configuration of the RTJ. One is discontinuous mode. In the discontinuous mode, SEIR offset CIR. The other is continuous mode. In the continuous mode, all of the three ridges intersect at the RTJ. They showed SEIR propagated toward the RTJ. On the other hand, Mendel et al., (2000) indicated that the CIR propagated toward the RTJ instead of SEIR.

We conducted geophysical surveys in the two research cruises by JAMSTEC. The first cruise was carried out in August 2000 by R/V KAIREI. The second cruise was carried out in February 2002 by R/V Yokosuka. We present the results of our studies about the bathymetric data collected in the two cruises with the previous data. Our preliminary results suggested that the model proposed Mendel et al. (2000) is better than Honsho et al. (1996).