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Using STCM data, relationship between spreading rate and magnetic boundary strike in mid ocean ridge

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Previous study using STCM data which were obtained Icebreaker SHIRASE and R/V MIRAI at 2003 and 2004 have suggested the results about spreading rate and stability of spreading in the Southeast Indian Ridge(SEIR) classified intermediate spreading ridge.

The results shows that the standard deviation of the MBS (Magnetic Boundary Strike) calculated from ISDV (Intensity of the Differential Vectors) is the low in 90E area characterized East Pacific Rise(EPR) type axial high, and the high in the 110E area showed the feature of Mid Atlantic Ridge(MAR) type axial valley at JpGU2012 meeting.

In this study, the standard deviation of MBS and half spreading rate were analyzed STCM data obtained by R/V MIRAI in East Pacific Rise of fast spreading ridge and Mid Atlantic Ridge classified slow spreading ridge.

The results were standard deviation of MBS is low and half spreading rate is stable in east of MAR, whereas standard deviation of MBS is the high and half spreading rate is unstable in west of MAR. Although, standard deviation of MBS is the low in west and the high in east of EPR, half spreading rate is variability in both areas. Therefore, there was no clear relationship about stable of MBS and half spreading rate. Moreover, the results in this study were different topographic compared to previous study in SEIR.

Keywords: Mid ocean ridge, Magnetic anomaly