Variation of noble gas signatures related with ridge segmentation around the Rodriguez Triple Junction in the Indian Ocean

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It has been observed that noble gas isotope ratios in MORB glasses, especially the 40Ar/36Ar, were similar in each segment of the ridges. This indicates that intrinsic noble gas information derived from a magma can be obtained by using severely selected samples. The degree of contamination is almost similar for these MORB glasses over such a large spatial extent as the length of the segment, which suggests that there might be some mechanism to homogenize the addition of the atmospheric component including the existence of the carrier for it as the thermal water for example.

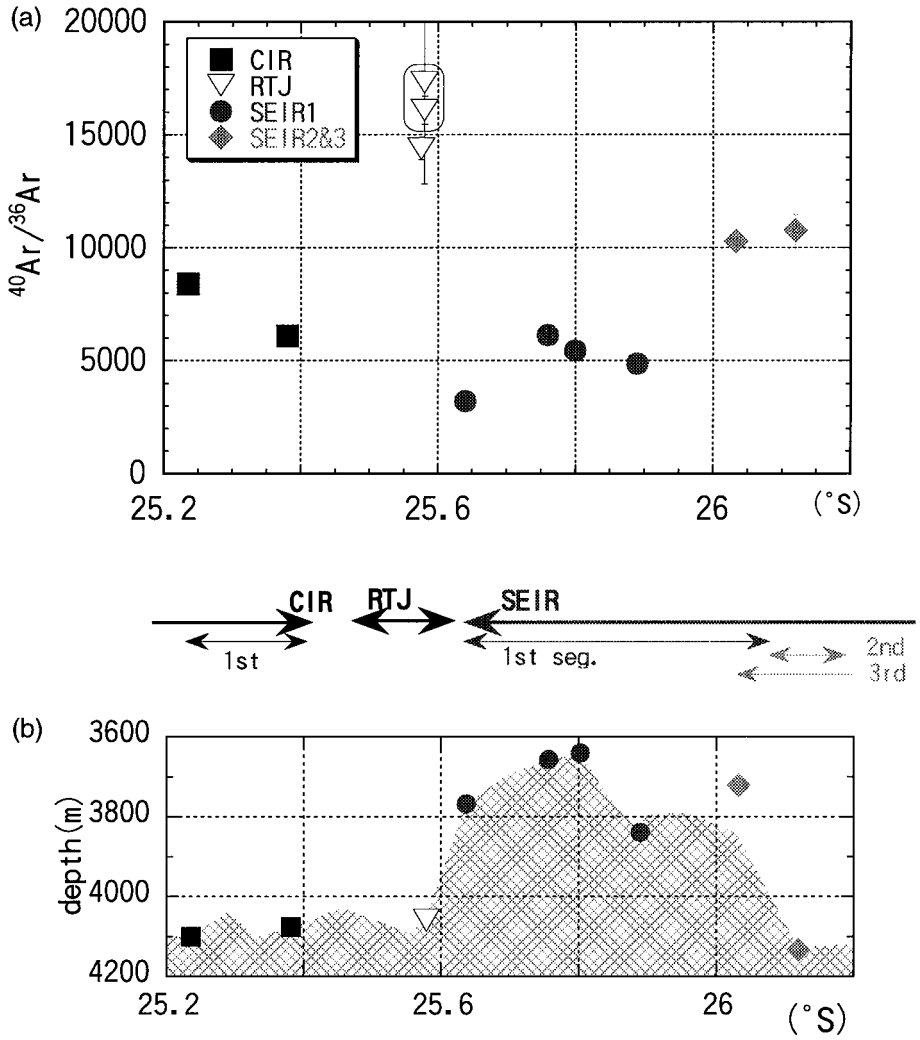

Figure: (a) The along ridge variation of the $^{40}Ar/^{36}Ar$ for the "clear" glasses. Although errors are shown by 1σ, they are within symbol size for most samples. Symbols are changed by the spatial groups . (b) Seafloor topography of the studied area and sampling depth. Boundaries of the observed segments are shown at the top of the figure.