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# Axial magnetic anomaly segmentation along the East-Greenland volcanic passive margin compared to magnetic segmentation of the Mid- Atlantic Ridge: a similar origin?

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The Mid-Atlantic Ridge is divided into 15 to 90 km-long segments (Sempéré et al., 1990). Observations of the axial magnetic anomaly amplitude along those segments show that this amplitude is systematically twice as high as at segment ends compared with segment centers. Along the East-Greenland volcanic passive margin, at the crust-ocean boundary, observations show that the magnetic anomaly amplitude displays a similar segmentation. Based on a numerical model of the magnetization distribution along slow-spreading ridge segments Gac et al. (2003) suggest that the oceanic axial magnetic anomaly along Mid-Atlantic segments could be consecutive to the combined effect of Fe-Ti content variations within basalts and the presence of serpentinized peridotites at segment ends. Taking into account the known across-strike and along-strike composition and structure of volcanic margins, as well as their postulated magma growth mechanism, we suggest from direct modeling that their magnetic segmentation could result from other causes such as along-strike variations in thickness of the upper crust magma section (trapps +SDRs) and/or of the magnetized layer of the underplated body.