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THE MOZAMBIQUE RIDGE OFF EAST AFRICA, MAGNETIC ANOMALY DATA ACROSS AN OCEANIC PLATEAU.

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Recent models for the break-up of Gondwana between Africa and Antarctica (160-100 Ma) are able to describe the relative movements between these two continents on a global scale. However, there are still many open questions concerning the tectonic significance and development of oceanic features like the Mozambique Ridge, the Agulhas Plateau and Maud Rise. All of these are large bathymetric plateaus or ridges, whose structure and origin is controversially discussed in literature. However, knowledge about the timing and development of these features is cruical for the calculation of paleobathymetry maps of the region and to define the extend of deep water connections between the Southwest Indian and the South Atlantic Ocean. Within the AISTEK-II expedition carried out from Mai to July 2005 with the German research vessel SONNE, for the first time, systematic high resolution magnetic measurements were carried out accross the complete Mozambique Ridge and the Mozambique Basin. Large amplitudes of 200 to 800 nT can be observed throughout the complete profiles over the Mozambique Ridge and south of it. However, amplitudes and frequency are slithly higher across the ridge. In the Mozambique Basin amplitudes decrease from west to east according to the sedimentary input from Madagascar into the Mozambique Channel. Correlations of magnetic anomalies clearly can be made south of the Mozambique Ridge. The beginning of the ridge is marked by a strong positive magnetic anomaly which can be identified accross all lines. Though different in character, there is still reasonable correlation between the magnetic amplitudes of the different lines across the ridge. This allows the interpretation that most of the ridge is of oceanic origin. Accepting this interpretation for the sturcture of the ridge this would have far reaching consequences for the extend and duration of postrift volcanism in the Atlantic/Indian sector. So far, different models for the creation and development of the Mozambique Ridge are compared and the consequences to plate tectonic reconstructoins of the region are discussed.