**Paleomagnetic and Rock Magnetic analysis of sediments and lavas obtained on IODP Expedition 392**

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IODP Expedition 392 to the Agulhas Plateau (AP) recovered sedimentary and igneous sequences from four sites (Sites 392-U1579, 392-U1580, 392-U1581, and 392-U1582) ranging in age from the Late Cretaceous to the Pleistocene. The primary objectives of this expedition were to examine the nature of the AP basement, the opening of oceanic gateways, and the evolution of the climate system through the Cretaceous hothouse and into the Cenozoic. A key to achieving these objectives is the development of high-quality age models for the sedimentary and igneous sequences recovered from each site. Shipboard age models were developed using a combination of biostratigraphic age constraints, in addition to magnetostratigraphy. To improve upon the age model, shore-based paleomagnetic analysis of discrete samples was performed on intervals where polarity could not be confidently determined from shipboard archive half measurements, specifically focused on intervals where refined age models help us achieve the Expedition objectives. Rock and environmental magnetic analysis was also performed on select discrete samples to characterize changes in magnetic mineralogy and grain size throughout the sedimentary sequence captured in each hole. Results from rock magnetic experiments help assess the reliability of measured magnetic signals and further can be used to say something about paleoenvironmental conditions. Magnetic minerals are responsive to many environmental changes including changes in sediment source, redox, weathering, and paleooceanographic conditions and can be utilized as a powerful tool for investigating past environments. Magnetic mineralogic changes will be connected to results from pore water geochemistry and astronomical tuning to help further understand the processes behind the observed changes. Here, we will present on the updated magnetostratigraphy and preliminary rock and environmental magnetic analyses.

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