

## **Paleogene and Neogene Magnetostratigraphy from ODP Leg 199 Sediments**

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**ODP Leg 199 was designated to collect sediments along a latitudinal transect in the Pacific Ocean to better understand Paleogene sedimentation patterns and the system of equatorial currents. At ODP Sites 1217 through 1220, the magnetic record of the Paleogene Equatorial sediments extends back to Polarity Chron C20r (Middle Eocene), providing an unprecedented record of Paleogene magnetostratigraphy in Equatorial Pacific sediments. Paleomagnetic data were acquired on the JOIDES-Resolution pass-through cryogenic magnetometer from archive halves of core sections. Analyses on both u-channel and discrete samples support the polarity pattern obtained on the shipboard magnetometer. Natural Remanent Magnetization was measured at 5-cm intervals for each core section, and was followed by four to five steps of alternating field demagnetization up to a maximum of 15 or 20 mT. In addition, shipboard and shore-based measurements of discrete samples were also carried out, including alternating field and thermal demagnetization and rock-magnetic analyses. All measured lithologies, including an upper red clay, radiolarian ooze and nannofossil ooze/chalk yield reproducible results and have moderate magnetization intensity, well above the noise level of the cryogenic magnetometer. Stepwise demagnetization of discrete samples indicates that the Characteristic Remanent Magnetization (ChRM) mostly resides in magnetite and can be isolated for the most part of the sedimentary record. The obtained high-resolution magnetic stratigraphy allows to cross-calibrate magnetic reversal stratigraphy with biostratigraphy, including the placement of the Eocene-Oligocene and Oligocene-Miocene boundaries. Overall, results from Leg 199 provide the first complete magnetobiostratigraphic record for the Middle Eocene through the Pliocene in the Equatorial Pacific Ocean.**

**1. Chapman Conference on Timescales of the Geomagnetic Field 2. Poster 3. (a) Josep M. Pares (Department of Geological Sciences, University of Michigan, 2534 C.C. Little Building, Ann Arbor, MI-48109; ph. 734-615-0472; email: jmpares@umich.edu) 4. No**