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Astronomically calibrated time scales from 6-2.5 Ma and benthic isotope stratigraphies of Sites 1236, 1237, and 1241

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We present benthic isotope stratigraphies for Sites 1236, 1237, and 1241 that span the late Miocene to Pliocene time interval from 6 to 2.4 Ma. Orbitally tuned time scales were generated for Sites 1237 and 1241 by correlating the high frequency variations in GRA density, percent sand of the carbonate fraction, and benthic δ^{13} C to the orbital solution of Laskar et al. (1993). The astronomical time scales for Sites 1237 and 1241 are in agreement with the one from Atlantic Site 925/926 (Leg 154). The comparison of benthic δ^{18} O and δ^{13} C records from the east Pacific sites and Atlantic Site 925/926 revealed a surprising clarity of the "41-k.y. signal" in δ^{13} C records and a remarkably good correlation between their δ^{13} C records. This suggests that the late Miocene to Pliocene amplitudes of obliquity-related δ^{13} C cycles reflect a magnitude of global response often larger than that provided by obliquity-related δ^{18} O cycles. At Site 1237, the orbitally-derived ages of Pliocene magnetic reversal boundaries between the base of Réunion and the top of Thvera confirm earlier astronomical datings of Shackleton et al. (1995) and Lourens et al. (1996), except for the Kaena chron. Our astronomical ages for the base and top of Kaena are one and two obliquity cycles older, respectively. The age model of Sites 1236 was established by correlating the benthic δ^{18} O and δ^{13} C records directly to the orbitally tuned isotope record of Site 1241.