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Possible solar influence on the formation of laminated sediments in the Shaban Deep, northern Red Sea

I. A. Seeberg-Elverfeldt (1), C. B. Lange (2), J. Pätzold (1)

(1) Research Center Ocean Margins, University of Bremen, Germany (2) Dept. Oceanografía, COPAS Center, Universidad de Concepción, Chile (seeberg@uni-bremen.de)

Annually laminated sediments from the Shaban Deep, a brine-filled basin in the northern Red Sea, were investigated. The studied core (GeoB 7805-1) was retrieved during METEOR-cruise M 52/3 and encompasses the time interval between 150 and 1700 AD, late Holocene. Sediments show a clear alternation between dark and light layers, which are composed of diatoms (fall/winter) and fecal pellets, comprised of mainly coccoliths (summer), respectively.

The eolian input (K, Ti and Al intensities) seems to have highest values during the Little Ice Age and the Medieval Climate Optimum (850-1700 AD), as well as during the Roman Age Optimum (150-500 AD), while values are lower between 500 and 850 AD (approximately the Migration Period Pessimum). The carbonate content ($CaCO_3$) for the core varies from 10 to 45 wt% with maxima at 375 and 800 AD. TOC content ranges between 0.6 and 2 wt% while the biogenic opal reaches values between 0.5 and 2.5 wt%. The stable oxygen isotope data show clear minima around 200 AD and 750 AD. For the last 1200 years the δ^{18}O maxima of *Globigerinoides ruber* (white) seem to display a strong negative correlation with the reconstructed solar irradiance curve from Bard et al. (2000) and correspond to the Wolf ($\sim$1300 AD), Spörer ($\sim$1500 AD) and Maunder ($\sim$1700 AD) minima.