Chirp and Bathymetric Data: A New Approach of the South Morocco Continental Margin, Offshore Dakhla

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This paper presents geophysical data acquired on a portion of the west african margin, offshore Dakhla, in the south Moroccan shelf around 23°N. The Dakhla cruise (2002) allowed to acquire very high resolution seismic data (CHIRP) together with swath bathymetry (EM300). These complementary data give a vertical and horizontal view of the surficial sediment with a similar resolution. This approach enables to define the extension and geometry of the superficial structures. Results show that superficial processes probably reflect deeper structures.

The studied area, just north of the Canyon Barbas and south of the Saharian slide scar , is situated in a relative unknown portion of this margin, at the junction between two systems . Profiles from around 23° N show a constructional section of the margin and evidence of shelf and slope progradation (Vonrad and Wiessmann, 1982). On the other hand, profiles from around 25° N and northwards, show destructional section of the margin with numerous slumps and slides cutting the slope surface.

Although the area prospected during the Dakhla Cruise should correspond to the constructional section of the margin, it reveals numerous different instability processes. More over, on land, there is no drainage system because of the desertic saharian climate, and turbidity currents pathways are only inferred (Wynn et al., 2000).