

Mirror (the Deep Moroccan Margin as Imaged by Reflection and Refraction Seismic Data: Ocean Continent Transition of a Rifted Margin) a Project to Study the Crustal Structure of the Moroccan Continental Margin

D. Aslanian¹, F. Klingelhoefer¹, J.-L. Olivet¹, M. Sahabi², J. Perrot³, D. Graindorge³, P. Leroy³, M. Rabineau³, M.-A. Gutscher³

¹ Ifremer, France,

² University. El Jadida,

³ Faculté des Sciences

⁴ Univ. Brest

The NW African margin of Morocco formed during the lower Jurassic and is one of the oldest in the world. Together with the conjugate Canadian margin it represents a key to understanding the formation and evolution of passive continental margins.

Ifremer, the universities of El Jadida, Brest, Lisbon, and Total have jointly conducted two deep seismic cruises on the northern and southern moroccan continental margin. Results from these cruises are presented in this meeting. A third survey, planned for 2008 (project - MIRROR), will include wide angle and reflection seismic data acquisition in order to image the deep structure of the moroccan continental margin along the conjugate of a deep profile (SMART-2) off Nova Scotia. 3- D data will be acquired in two regions of particular interest: magnetic anomaly S1 (the conjugate of the East Coast Magnetic Anomaly, and close to the ocean-continent transition) and the edge of the continental platform (10-12°W and 32-33° N). Imaging these structures will allow testing of hypotheses regarding the origin of magnetic anomalies (the expression of massive basalt flows - SDR?s ?) and testing of rifting models which commonly propose low-angle detachments allowing mantle exhumation during continental breakup.

Keywords: Mirror; Moroccan continental margin; Crustal Structure;