

GENESIS AND EVOLUTION OF THE SANTOS BASIN-SÃO PAULO PLATEAU SYSTEM, SE BRAZIL

*D. Aslanian¹, M. Moulin¹, A. Viana⁴, C. Rigoti⁴, M. Evain¹, P. Schnurle¹, A. Afilhado^{1,2,3}, A. Loureiro², F. Klingelhoefer¹, R. Fuck⁵, J. Soares⁵ & Sanba Team**

¹Ifremer, Geosciences Marines, Technopôle Brest-Iroise, CS 10070, 29280 Plouzane, France

²Instituto Dom Luis (IDL), Faculdade de Ciências da Universidade de Lisboa, 1749-016 Lisboa, Portugal

³Instituto Superior de Engenharia de Lisboa (ISEL), Rue Conselheiro Emidio Navarro, 1959-007 Lisboa, Portugal,

⁴PETROBRAS/CENPES-PROFEX, Rio de Janeiro, Brazil,

⁵Lablithos, Instituto de Geociências (IG), Universidade de Brasília, Campus Darcy Ribeiro, 70910-900 Brasília, Brazil,

* The SanBa Project was led by D. Aslanian and M. Moulin, from Ifremer, and A. Viana, from Petrobras. Modelling of the SanBa profiles was done by M. Evain, A. Afilhado, C. Rigoti, A. Loureiro, D. Alves, F. Klingelhoefer and A. Feld. Processing of the deep sounding reflection seismic data was done by P. Schnurle. On-land operation was conducted by J. Soares, R. Fuck, M. Vinicius de Lima, L. Matias, C. Corela & J.L. Duarte. Processing of the high resolution seismic data by M. Benabdellouahed, A. Baltzer, and M. Rabineau.

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RESUMO: Understanding the fundamental processes, which lead to the thinning and finally to the breakup of the continental crust is still one of the main challenges for the Earth Science community. Although much progress has been achieved over the last three decades, thanks to the acquisition of new deep seismic reflection surveys, coupled with refraction data, these processes related to continental margin formation and evolution remain poorly understood. Hypotheses, conceptual models, seismic interpretation must be integrated on precise paleogeographic maps in order to test their consequences on global view to be validated. For instance, conservational models, like simple shear, pure shear or polyphase models, which exclude exchanges between the lower continental crust and upper mantle, are usually proposed to explain the lithospheric stretching and consequent crustal thinning of passive continental margins. These models need large amount of horizontal movement, which are never taken into account, and have therefore important implications for plate kinematic reconstructions and intraplate deformation.

In the scope of the SanBa project, a scientific collaboration between Ifremer, FCUL, UnB, IUEM and Petrobras, new wide-angle and multi-channel seismic data have been acquired in the Santos Basin, in order to 1) Determine the crustal geometry of this very specific SSPS basin; 2) Calibrate the ION-GXT lines 1550 and 1575 ; 3) Test/confirm/falsify/constrain the various hypotheses about the nature of the substratum in the segments (Klingelhoefer *et al.*, 2014; Evain *et al.*, 2015) ; 4) include the results in the kinematic evolution of the Santos Basin-São Paulo Plateau System (Moulin *et al.*, 2012) in a more general setting (Moulin *et al.*, 2010) and 5) Finally help to understand the genesis and the kinematic of this very peculiar 700 km-wide Santos Basin-São Paulo Plateau System (SSPS) and its narrow conjugate Namibe Margin.

Integrating the analysis of the 185 OBS (Ocean Bottom Seismometers), deployed along seven profiles (see Evain et al, this congress and 2015) and their interpretation, in a detailed kinematic setting, allow us to detail the genesis and evolution of the Santos Basin.

PALAVRAS-CHAVE: SANTOS BASIN, SÃO PAULO PLATEAU, DEEP SEISMIC STRUCTURE, KINEMATIC EVOLUTION