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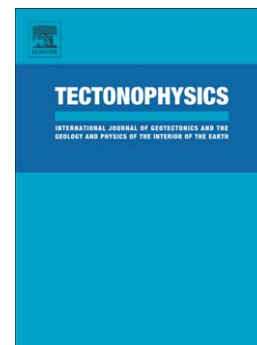
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Comparison of the rift and post-rift architecture of conjugated salt and salt-free basins offshore Brazil and Angola/Namibia, South Atlantic

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Abstract

This study presents a regional comparison between selected 2D seismic transects from large, conjugated salt and salt-free basins offshore southern Brazil (Campos Basin, Santos Basin, Pelotas Basin) and southwest Africa (Kwanza Basin, northern and southern Namibe Basin, Walvis Basin). Tectonic-stratigraphic interpretation of the main rift and post-rift units, free-air gravity data and flexural isostatic backstripping were used for a comprehensive basin-to-basin documentation of key mechanisms controlling the present-day differences in conjugated and neighbouring South Atlantic basins. A significant variation in the tectonic-sedimentary architecture along-strike at each margin and between the conjugated basins across the South Atlantic reflects major differences in (1) the structural configuration of each margin segment at transitional phase between rifting and breakup, as emphasized in the highly asymmetric settings of the large Santos salt basin and the conjugated, salt-free southern Namibe Basin, (2) the post-breakup subsidence and uplift history of the respective margin segment, which caused major differences for example between the Campos and Espirito Santo basins and the conjugated northern Namibe and Kwanza basins, (3) variations in the quantity and distribution of post-breakup margin sediments, which led to major differences in the subsidence history and the related present-day basin architecture, for example in the initially rather symmetric, siliciclastic Pelotas and Walvis basins, and (4) the deposition of Aptian

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