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Structural comparison of archetypal Atlantic rifted margins (Angola - Esperito Santo, Iberia - Newfoundland, mid.Norway - East Greenland)

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In the last decade, a number of new geological and numerical models have been proposed to explain intriguing observations from deep margin settings that were previously not well understood. These new models, together with the increasing amount of high-quality geophysical data, now allow to compare observations from different margins. Key areas are the Iberia-Newfoundland conjugates, the North-East and South Atlantic systems. A first-order structural similarity appears between the architectures of these rifted margins, including magma-poor as well as magma-rich ones. Typical is the seawards arrangement of characteristic entities such as platforms, necking zones, ocean-continent transitions and marginal/outer highs. The arrangement appears to reflect a commonality with respect to the tectonic processes involved in rifted margin formation. The study of magma-poor and magma-rich margins notably suggests that hyper-extension does not preclude a magmatic breakup.
We propose to clarify the definition of a number of terms typically used in rifted margin studies. Then we will present a review of available information from the Angola-Gabon, Iberia-Newfoundland and Norway-Greenland margins, usually referred to as the archetypes of hyper-extended, magma-poor or volcanic margins. We will discuss their similarities and differences and review the related deformation modes.