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Tectonic structure of the continent-ocean transition along two conjugate profiles from South Australian and East Antarctic magma-poor rifted margins.

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The South Australian and East Antarctic conjugate margin is one of the best examples to study the conjugate margin structure resulting from lithospheric extension under poor-magmatic conditions. The high quality reflection data available on both conjugate rifted margins provide clear images of the Lower Cretaceous rifting and the continental ocean transition (COT) region, facilitated by a relatively thin post rift sedimentary column (only up to 3s TWT) .
However, the margin has not received the same attention as the better studied Newfoundland-Iberia magma-poor rifted margin, which is traditionally considered as the archetype of magma-poor rifted margins. Because of this, conceptual models to explain lithospheric extension processes causing the formation of magma-poor rifted margins have been developed only considering some North-Atlantic conjugate margins and not the whole Earth evidences of magma-poor rifted margins.
However, a shortcoming to understand the Newfoundland-Iberia COT has been that much of the transition along the Newfoundland side –conjugate to the well image Iberia Abyssal Plain- has not been well imaged due to seismic-energy-penetration problems. South Australian-East Antarctic margin pair shows a well imaged wide COT on both conjugate sides, which makes it a unique example to further understand the processes of continental lithospheric extension of magma-poor rifted margins and its symmetric or asymmetric character.
Previous studies of the region have been based on seismic images migrated in time. Here we present the current status of the processing in depth of two multichannel seismic profiles imaging the structure of the conjugate COT. The profiles have being re-processed and subsequently it has been applied an iterative process to obtain detailed velocity models and a pre-stack depth migrated image.