



## **Offshore and onshore stratigraphic constraints to rebuild the evolution of the two conjugate margins (Gulf of Lion and West Sardinia) over the last 30 Myr**

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Principles of seismic and sequential stratigraphy [Vail et al., 1977] are applied onto an extensive set of seismic reflection and drilling data in the Provençal Basin to correlate post-rift Miocene and Plio-Quaternary chronostratigraphic markers at the basin-wide scale. Stratigraphic, sedimentological and micropaleontological studies [Cravatte et al., 1974] for some of the boreholes provide additional information on the depositional environments and the chronostratigraphy of the drilled series. Synthesis of previous onshore studies on the both conjugate margins (Gulf of Lion and West Sardinia), and new fieldwork [Rueda, 2014] enable us to establish the stratigraphical link between onshore and offshore syn-rift and post-rift sequences. Miocene peri-Alpine foreland basin is particularly connected toward the south with the Gulf of Lion passive margin and is predominantly filled by marine shallow water siliciclastic deposits ranging from lower Miocene to Pliocene in age. Nine to ten depositional onshore sequences are identified [Besson et al., 2005, Rubino et al., 2015] and can be traced into the post rift part of the Gulf of Lion. The recognition of these sequences on the distal part of the shelf from the Burdigalian to the Messinian with a good well calibration is fully consistent and integrated in a chronostratigraphic history of the Provençal Basin over the last 30 Myr.

We quantify, model and discuss the evolution of vertical movements and sediment budgets since the rifting.

This study also allows us to construct a complete sea-level change curve for the western Mediterranean Neogene.

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