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**Challenges of Sequence Stratigraphy in the Siluro-Devonian Succession of the Sahara Craton**

The aim of this paper is to review different parameters which controlled the architecture of the Siluro-Devonian succession in the Algerian Sahara craton. Sub-basins with low sedimentation rates were separated by arches which formed positive relief and induced facies and thickness variations. Low topographic gradients between the continental and marine areas also characterised these basins. No well-defined shelf break existed between the platform and the deeper basin. Finally, the Silurian and Devonian period was the site of peculiar sedimentation conditions. In continental succession, floodplain sediments were rarely preserved because of the poor vegetation development. In the marine domain, high tidal ranges favoured the reworking of the sands offshore in tidal ramps. One of the main consequences of the low accommodation rate is the surprising continuity of the facies belts within the depositional sequences. In continental environments, the same fluvial sequence can be traced over tens of kilometres without showing any significant facies variations. This continuity is related to the low topographic gradients of the Palaeozoic river systems and the relatively high sediment fluxes, which balanced the accommodation creation. In the marine domain, the tidal ramps show a constant thickness and the transition to the offshore mudstones is very progressive. The continuity is both due to low subsidence rate, forced regression wedge geometry and the sedimentary dynamic which favoured a reworking of the sands offshore. The presentation will be illustrated with outcrop, subsurface regional transects and stratigraphic simulations in the Illizi and Berkine basins in Algeria.