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Magnetostratigraphy of the Triassic/Jurassic boundary succession in the western Southern Alps

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The Triassic/Jurassic boundary in the Bergamasc Alps (Western Southern Alps, Italy) is sandwiched between the Rhaetian carbonate ramp succession of Zu Limestone (Zu2 and Zu3 members) and the lower Hettangian Malanotte Formation (Zu4 member Auct.). The Zu Limestone succession reveals two shallowing-upward third-order tectono-eustatic sequences. They are organised into several decametre to meter scale, subtidal mixed shale-carbonate asymmetric cycles documenting the regional evolution from distal to proximal depositional environment of an articulated homoclinal carbonate ramp. The Malanotte consists of thinly bedded, open subtidal, grey dark-grey micritic limestones, deposited on a more homogenous outer carbonate ramp, during the regional earliest Hettangian transgressive event. The succession is overlain by the 'Bahamian'-type Conchodon Dolomite.

The Rhaetian succession in the studied area is about 400 m thick, whereas 60 m of the Hettangian succession (Malanotte Formation and the lowermost Conchodon Dolomite) has been sampled. A composite section has been used to reconstruct the magnetostratigraphy of the boundary succession, which shows a series of major magnetozones and offers a good potential to compare the shallow-marine record of the Bergamasc Alps with the continental (Newark Supergroup) magnetostratigraphy.