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A multistratigraphic study of the Campanian Postalm section (Northern Calcareous Alps, Austria)

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The Postalm section in the Gosau Group (Northern Calcareous Alps) exposes pelagic deposits of northwestern Tethyan origin. We present a magneto-, bio- and chemostratigraphic assessment of this Santonian to uppermost Campanian record, as well as a cyclostratigraphic model for the Tethyan Campanian based on three independently assessed proxies; the $\delta^{13}\text{C}$ signature, the elemental ratio of Fe and the thickness of limestone/marl couplets (Wolfgring et al., 2021).

The Santonian/Campanian transition is characterised by condensed greyish packstones, the Campanian strata exhibit a succession of limestone-marl couplets that represent orbital precession of an approximate duration of 20ka. A magneto- and biostratigraphic (based on planktonic foraminifera and calcareous nannofossils) framework is supported by carbon isotope and strontium stratigraphy.

The Sr isotope record matches the data for the Upper Cretaceous and suggests no major gaps in the Postalm succession. A robust cyclostratigraphic assessment of three independently assessed data series (L/M couplets, Fe and $\delta^{13}\text{C}$) resulted in the identification of eighteen 405 ka eccentricity cycles spanning the middle to upper Campanian (*Contusotruncana plummerae* to *Gansserina gansseri* Zones or CC17/UC15 to CC23/UC16 nannofossil zones).

Carbon isotope stratigraphy identifies the LCE (Late Campanian Event) and possibly the SCBE (Santonian Campanian Boundary Event). Magneto- and biostratigraphic data, in particular the position of the top of the *R. calcarata* planktonic foraminifera Zone, the position of the LCE and the top of Chron C32r.1r served as primary tie points and constraints to match the floating cyclostratigraphic model to the Laskar solution and to compare it to other cyclostratigraphic solutions and reference sections for the upper Campanian.

References: Wolfgring, E., Wagneich, M., Hohenegger, J., Böhm, K., Dinarès Turell, J., Gier, S., Sames, B., Spötl, C., Jin, S., 2021. An integrated multi-proxy study of cyclic pelagic deposits from the north-western Tethys: The Campanian of the Postalm section (Gosau Group, Austria), *Cretaceous Research*, 120, 104704, doi.org/10.1016/j.cretres.2020.104704.

