Astrochonology for the Early Jurassic – initial results from the JET Project

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Abstract

Drilling for the Early Jurassic Earth System and Timescale ICDP project (JET) was undertaken between November 2020 and January 2021. The Prees-2 drill site is situated in a small-scale latest Triassic to Jurassic sag basin formed above a major Permian–Triassic half graben system in the Cheshire Basin, England, UK. The borehole was located to recover an expanded and complete succession from the mid Pliensbachian down to the Norian to complement legacy core from the Llanbedr (Mochras) Farm borehole drilled through 1967-69 on the edge of the Cardigan Bay Basin, N. Wales; the overall aim is to construct an astronomically calibrated integrated timescale for the Early Jurassic and to provide insights into the operation of the Early Jurassic Earth System. Downhole and core data from both boreholes are now compared with additional new high-resolution geochemical datasets from offset wells (Wilkesley, Burton Row) and from GSSP (East Quantoxhead, Robin Hood's Bay) and other outcrop sections to revise the estimated lengths of all the Early Jurassic stages.

Keywords: Jurassic, cyclostratigraphy, timescale, Lias

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