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Quantitative biochronology of the Permian-Triassic boundary in South China based on conodont Unitary Associations

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Abstract

The biochronological characterization of the Permian-Triassic Boundary (PTB) is here improved by means of conodont Unitary Associations Zones (UAZs). The selected data set comprises the six best documented sections in South China, including the Meishan global stratotype section and point of the PTB. This new biochronological zonation has a much higher accuracy than previous schemes, which were based on continuous interval zones. We show how traditional interval zones around the PTB in South China suffer from diachronous boundaries that cross each other as the result of sampling effort (intensity and density) and of geographical or ecological exclusion of zonal index taxa, inclusive of the first occurrence of the base Triassic index species *Hindeodus parvus*. Our quantitative and robust approach produces a discrete sequence comprising six UAZs. In the closest agreement with the position

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