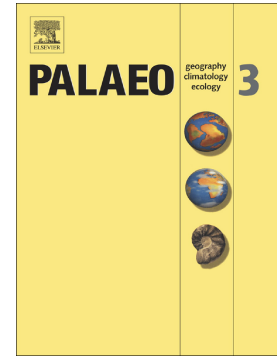


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Carbon isotope stratigraphy of the lower to middle Cambrian on the eastern Yangtze Platform, South China

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Abstract: During the Cambrian Series 2 to 3, vast areas of carbonate strata were deposited on the Yangtze Platform, South China, providing excellent materials for carbon isotope stratigraphic studies. Previous studies have revealed the stratigraphic framework of the carbonate strata in the western Yangtze Platform, yet little remains known about the carbon isotope signature of the strata in the eastern Yangtze Platform. High-resolution carbon isotope curves of the Well K2 and Well WN2 drilling sections that cover the traditional Lower–Middle Cambrian boundary in the eastern Yangtze Platform are reported in this study. One positive (M1) and two negative (M2 and M3) $\delta^{13}\text{C}$ excursions can be recognized in the Mufushan Formation of the Well K2 section, whereas three negative $\delta^{13}\text{C}$ excursions (D1, D2, and D3) are found in the Dachening Formation of the Well WN2 section. Combined with palaeontological constraints, the M1 excursion, M2 and D1 excursions, and M3 and D3 excursions are correlated with the the MICE (Mingxinsi Carb on Isotope Excursion), AECE (Archaeocyathid Extinction Carbon isotope Excursion), and ROECE (Redlichiid–Olenellid Extinction Carbon isotope Excursion) on the generalized global $\delta^{13}\text{C}$ curve through the Cambrian. The M1 excursion is accompanied by high total organic carbon contents, indicating that it was caused by high primary productivity. In contrast, the M2, D1, and D3 excursions all coincide with lithological changes implying

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