



Late Quaternary temperature variability described as abrupt transitions on a $1/f$ noise background

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We show that in order to have a scaling description of the climate system that is not inherently non-stationary, the rapid shifts between stadial and interstadial conditions during the last glaciation cannot be included in the scaling law. The same is true for the shifts between the glacial and interglacial states in the quaternary climate. When these events are omitted from a scaling analysis we find that the climate noise is consistent with a $1/f$ law on time scales from months to 10^5 years. Using wavelet-based structure-function analysis we find no evidence of multifractal intermittency.