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Atmospheric local energetics in mid-Holocene and Last Glacial Maximum climates

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A new diagnostic scheme for the atmospheric local energetics is developed. In contrast to existing ones, this scheme can represent the local feature of the Lorentz energy cycle correctly. A set of interaction energy flux and two different local expressions of energy conversion terms gives the complete information about the three dimensional structure of the energy interactions between mean and eddy fields. By utilizing this scheme, the atmospheric general circulation in the mid-Holocene and Last Glacial Maximum climates simulated by AOGCMs is investigated. A preliminary results will be shown.

Keywords: mid-Holocene, LGM, energetics, AOGCM