

INFLUENCE OF NATURAL FORCINGS ON SOUTHEASTERN BRAZILIAN CLIMATE DURING THE PAST TWO THOUSAND YEARS

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The scientific community has recently been discussing the possible influences of solar activity, galactic cosmic ray flux and geomagnetic field on the Earth's climate. In this work we use the Empirical Mode Decomposition and Moving Window Average Smoothing methods in order to identify the influences of these natural climatic forcings on precipitation over southeastern Brazil. We use Monsoon precipitation related data based on high-resolution records of oxygen isotope ratios from speleothem in Iporanga, São Paulo State (24.5°S, 48.7°W). The data of galactic cosmic ray production rate, modulated by Solar and the Earth's Magnetic Field, were obtained from INTCAL04 calibration curve. Our results indicate that the solar modulation of climate variability is significant and persistent throughout the investigated period.