

27-day solar rotational cycle in lightning activity in Kyoto from the 17th to 18th century

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A solar rotational period of approximately 27 days has been detected in cloud and lightning activities, although the mechanism of the sun-climate connection remains unclear. In this paper, we analyze the time series of lightning activity in the late 17th century to the mid 18th century, extracted from old diaries in Kyoto, Japan, and search for the signal of solar rotational cycles. The 27-day cycles were detected in the lightning data, but they disappear during the Maunder Minimum. This finding provides insight into the connection between solar activity and the Earth's climate.