

Solar 27-day rotational period detected in a wide-area lightning activity in Japan

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A signal of the 27-day solar rotational period is often observed in cloud and lightning activities over the globe. Here we provide evidence of the 27-day periodicity of lightning activity in Japan using daily observational records of lightning for AD1989–2015. The 27-day period is detected only in a wide-area lightning activity over more than a few hundred thousand square kilometers. The 27-day signal is more prominent around the maxima of solar decadal cycles.

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