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*Supplement of*

## **Solar rotational cycle in lightning activity in Japan during the 18–19th centuries**

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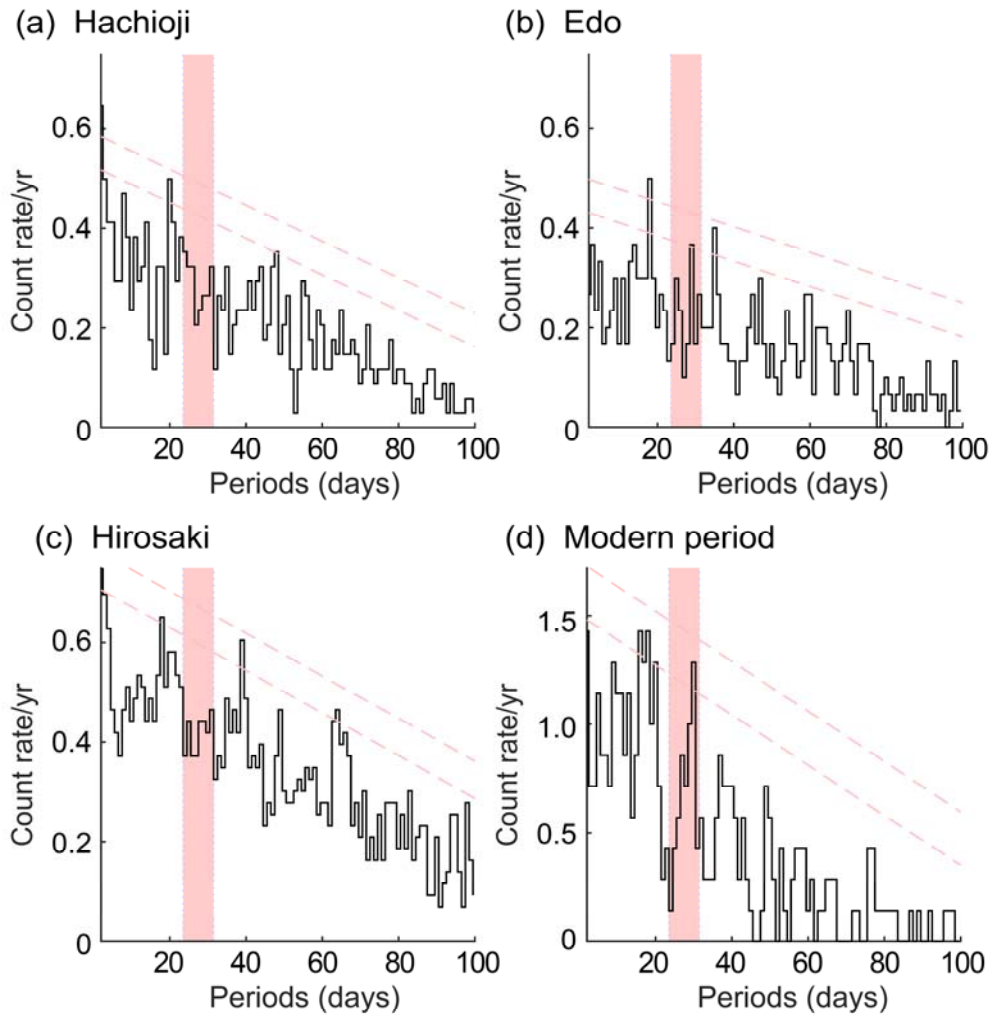


Figure S1. Periodicity of the thunder/lightning events at the declining phase of solar cycle in (a) Hachioji, (b) Edo, (c) Hirosaki in the 18th to 19th centuries, and (d) Japan in the modern period. The red dashed lines denote 2.0 and 3.0 SDs. The red shaded bars indicate the 24–31 day period.

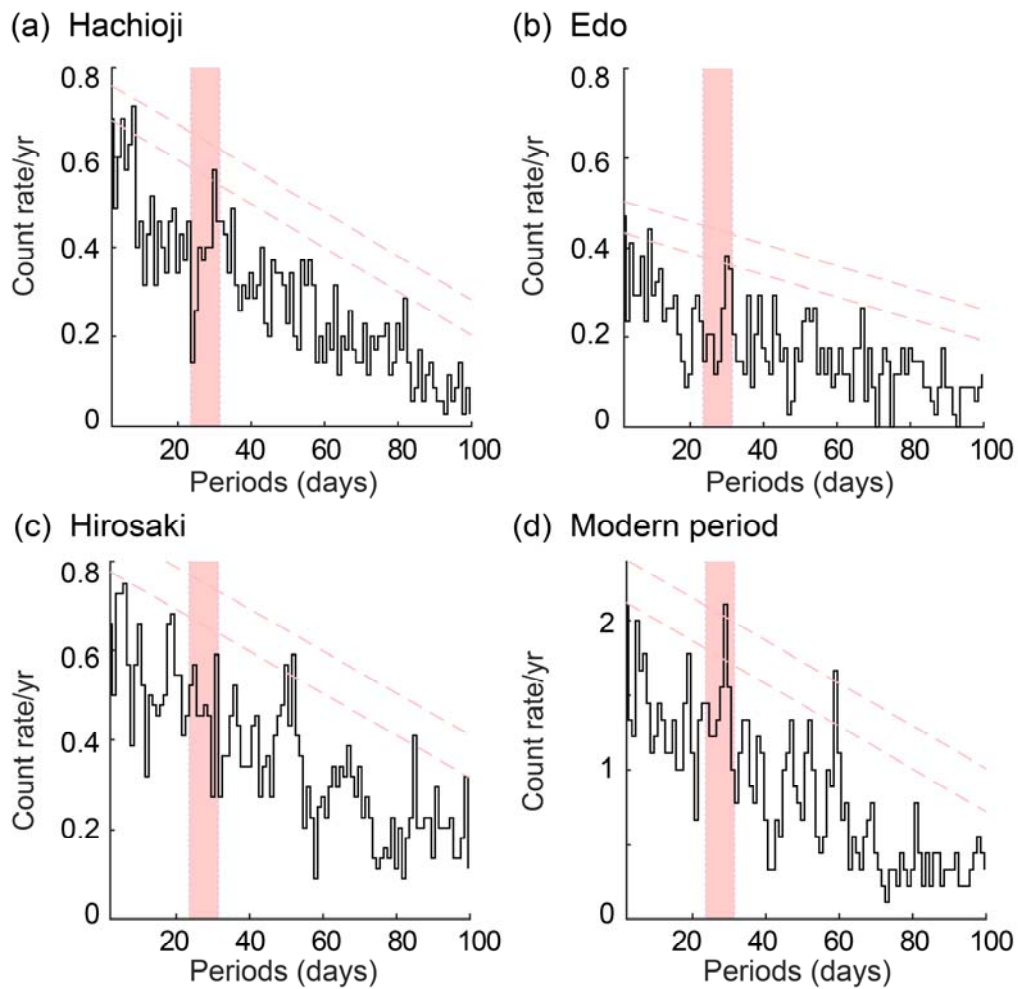


Figure S2. Periodicity of the thunder/lightning events at the maxima of solar decadal cycles in (a) Hachioji, (b) Edo, (c) Hirosaki in the 18th to 19th centuries, and (d) Japan in the modern period (1989-2014 AD). The red dashed lines denote 2.0 and 3.0 SDs. The red shaded bars indicate the 24–31 day period.

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