

Pheasant tail aurora: The oldest record of astronomical phenomenon in Japan

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The oldest record of an astronomical phenomenon in Japan was recorded in the Nihon-shoki as follows: "On December 30 in 620, a red sign appeared in heaven. The length was more than 1 jo (10 degrees). The shape was similar to a pheasant tail (Suiko-Tennou, 28)". The appearance of a red sign has been recognized as an expression of a bad omen in literature, while it has been interpreted as the northern lights in geophysics. We introduce the latest scientific findings that the northern lights show a fan-shaped appearance with a red background when appearing over Japan (Kataoka et al., 2019). After showing that the fan-shape is similar to a pheasant tail, also pointing out the low possibility of comets, we conclude that the oldest record of the red sign is consistent with the appearance of the northern lights over Japan.

Reference:

Kataoka, R., S. Uchino, Y. Fujiwara, S. Fujita, and K. Yamamoto (2019), Fan-shaped aurora as seen from Japan during a great magnetic storm on 11 February 1958, 9, A16, <https://doi.org/10.1051/swsc/2019013>.