

Aurorae of the 1859 Carrington Event.

German*, B.R., *Independent Researcher, 79111
Freiburg, Germany, borisgerman@hotmail.com.

Based on the solar white flare during the Carrington event, isolated low-latitude auroras were not explained. Therefore, within the standard paradigm, researchers are forced to postulate, in addition to the two ICMEs [1], a new type of auroras: neither diffuse nor discrete, but so-called 'low-latitude' [2]. However, for example, the 1885 Andromedids' shower covered $\sim 2 \times 10^5$ miles [3]. Thus, the aurorae caused by the 1859 Andromedids' meteors could also reach any part of Earth, including low latitudes. The aurorae were diffuse, which matches the eyewitness reports [4]. In 1859, the maximum diameter of the auroral rays bundle was ~ 20 miles (~ 32 km) [5]. The space corresponding to each visible meteor in the 1885 Andromedids shower was equivalent to a cube with an edge length also of ~ 20 miles [3]. However, according to modern data, the standard diameter of the auroral rays bundle associated with ICMEs is only ~ 1 km or less [6].

[1] German, B. (2025) Joint EPSC-DPS2025-12, Helsinki, Finland, V. 18. <https://doi.org/10.5194/epsc-dps2025-12>

[2] Hayakawa, H. et al. (2020) EPS 72, 122. [3] Newton, H. (1886), AJS 186 414. [4] Green, J. et al. (2006) ASR 38 10. [5] Loomis, E. (1861), AJS S2-32.96, 322. [6] Baranoski, G. et al. (2003) J. Computer Animation & Virtual worlds 14 47. <https://doi.org/10.1002/vis.304>