

Solar white-light flares and Andromedids.

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It is uncertain whether what R. Carrington observed was truly an unusual solar event on 1 September 1859 [1]. R. Carrington was surprised that he did not notice any changes in the group of spots he had sketched before discovering the solar white-light flare (WLF) [2]. Both in shape and position, the phenomenon of the WLF appeared entirely independent of the configuration of the large spot and its parts, whether it was the core or shadow of the sunspot [2]. The recurrence of such a strong geomagnetic storm as on 2 September 1859 should occur once every 60–100 years. Yet, just one solar cycle later, a comparable storm was recorded on 4 February 1872 [3]—the solar paradigm unexplained this. However, the solar WLF was documented on 13 November 1872 [4]. After this flare, the first activity in the γ -Andromeda region was observed from 14 November 1872 [5]. The WLF was also observed during the 1859 Carrington Event, which is probably linked to the Andromedids [3]. These two episodes no longer seem like mere coincidence [3].

[1] Akasofu, S. & Kamide, Y. (2005) JGR: Space Phys. 110 A09226. [2] Stewart, B. (1861), Phil. Trans. 151 427. <https://doi.org/10.1098/rstl.1861.0023> [3] German, B. (2025) 18 SB8 #EPSC-DPS2025-12. [4] Hudson, H. (2021) A&A 59 445. [5] Newton, H. (1872) Nature 7 122.