Hvar Observatory - Why is space weather so important: the SpaceX example

Written by Mateja Dumbovic Thursday, 10 March 2022 15:42



In the editorial paper " <u>SpaceX—Sailing Close to the Space Weather?</u>" of the new issue of <u>Space Weather Journal</u>

the Editors remarked on the recent

SpaceX

satellite loss due to geomagnetic storm and lessons to be learned from the event.

"The 3 February 2022 launch of 49 of SpaceX's Starlink satellites has provided a fascinating example of how even modest space weather can have significant practical and financial consequences. Enhanced atmospheric drag associated with a minor geomagnetic storm led to the loss of the majority of the 49 launched satellites. Although the 36th launch by SpaceX in the past 3 years, it was the first that experienced stormy space weather. We expect more stormy space weather as Solar Cycle 25 ramps up toward its peak expected in 2025. A subsequent Starlink launch on 21 February used a higher initial orbit at 300 km, reducing the payload from 49 to 46 satellites, and can be considered an agile response to the space weather losses experienced 2 weeks earlier. Lessons to be learned by the space industry and the space weather community are discussed, including a better dialog, nuanced understanding of space weather risks associated with modest events, but also an opportunity to investigate the space environment in relatively unexplored regions such as very low and high low Earth orbits." [Hap good et al., 2022

Space weather is becoming a growing factor in our modern society, especially with private companies launching whole fleets of satellites into low Earth orbit. This recent SpaceX experience is a blatant example why space weather research and forecast are so important.