

Beat: Miscellaneous

Sun unleashes fourth solar flare, briefly causing radio blackout

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USPA News - The Sun unleashed a fourth significant solar flare Wednesday as it approaches the solar maximum during its activity cycle, briefly causing limited interruptions to high-frequency radio communications, the U.S. Aeronautics and Space Administration (NASA) said. The space agency said the Sun emitted a fourth X-class flare from its upper left limb, peaking at 0148 GMT on Wednesday (9:48 p.m.

EDT on Tuesday). It said the flare, which was captured on camera by NASA's Solar Dynamics Observatory, was classified as an X1.2 flare, making it the 18th X-class flare of the current solar cycle. Solar flares are powerful bursts of radiation that, when intense enough, can disturb the atmosphere in the layer where GPS and communications signals travel. NASA said Wednesday's flare caused a brief radio blackout that was categorized as an R3, or strong, on NOAA's space weather scale that ranges from R1 to R5. Wednesday's flare was also associated with a non-Earth-directed coronal mass ejection (CME), which is different from a flare as solar flares are powerful bursts that send light and radiation into space while CMEs erupt with billions of tons of solar material. They frequently occur together. Experimental NASA research models show Wednesday's CME left the Sun at around 745 miles (1,199 kilometers) per second, beginning at 0218 GMT (10:18 p.m. EDT Tuesday). It was not Earth-directed but, as it may pass the Spitzer and Epoxi orbits, their mission operators were notified. "If warranted, operators can put spacecraft into safe mode to protect the instruments from solar material," NASA said in a statement. NASA observed the third significant solar flare at 0111 GMT on Tuesday (09:11 p.m. EDT Monday). The flare was classified as an X3.2 flare, making it the strongest X-class flare of 2013 so far, surpassing in strength the two other X-class flares that were observed on Monday. "X-class" denotes the most intense flares, while the number provides more information about its strength. An X2 is twice as intense as an X1, an X3 is three times as intense, etc. Harmful radiation from such flares cannot pass through Earth's atmosphere to physically affect humans on the ground. Increased numbers of flares are quite common at the moment because the Sun's 11-year activity cycle is ramping up toward solar maximum, which is expected later this year. Humans have tracked the solar cycle continuously since it was discovered in 1843, and it is normal for there to be many flares a day during the Sun's peak activity. The first X-class flare of the current solar cycle occurred on February 15, 2011, with the largest an X6.9 on August 9, 2011.

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