Japan Geoscience Union Meeting 2012
(May 20-25 2012 at Makuhari, Chiba, Japan)

PEM27-04 会場:106 時間:5 月 21 日 09:45-10:00

WASAVIES のためのフレア CME イベント認知システムの性能評価
Performance Evaluation of Automated Flare-CME Event Recognition System for WASAVIES

八代 誠司 [1*], Gopalswamy Nat[2]
YASHIRO, Seiji[1*], GOPALSWAMY, Nat[2]

[1] 米国カトリック大, [2]NASA ゴダード宇宙飛行センター
[1]The Catholic University of America, [2]NASA Goddard Space Flight Center

Solar Energetic Particles (SEPs) are accelerated by interplanetary shocks driven by coronal mass ejections (CMEs). The intensity of the SEP events is closely related to the CME speed, width, and source location. SEPs pose significant radiation hazard to space systems and aviation, so it is important to predict the SEP events. The WArning System of AVIation Exposure to SEPs (WASAVIES) is an initiative to forcast the expected exposure to SEP events at the latitude of commercial aircraft. The aim of this work is to obtain the CME parameters in real-time for better prediction of SEP events. The work involves the identification of CME source regions using soft X-ray flares and CME kinematics using automatic recognition of CMEs.

NOAA Space Weather Prediction Center has issued X-ray flux alert when flare X-ray flux exceeds the M5 level. Twenty four major flare alerts were issued between February 2010 and January 2012. Out of the 24 flares, 18 were associated with the CMEs. Our automated CME recognition system could detect all the CMEs but the obtained CME speeds were significantly lower than the CME speed measured by human eyes. We need to optimize parameters in the CME recognition system to obtain the better results.
Keywords: Space Weather, CMEs, Flares