

Current Status of WASAVIES: Warning System for Aviation Exposure to Solar Energetic Particles

*佐藤 達彦¹、片岡 龍峰^{2,3}、塩田 大幸^{4,5}、久保 勇樹⁴、石井 守⁴、保田 浩志⁶、三宅 晶子⁷、Park InChun⁵、三好 由純⁵

*Tatsuhiko Sato¹, Ryuho Kataoka^{2,3}, Daikou Shiota^{4,5}, Yuki Kubo⁴, Mamoru Ishii⁴, Hiroshi Yasuda⁶, Shoko Miyake⁷, InChun Park⁵, Yoshizumi Miyoshi⁵

1. 原子力機構、2. 極地研、3. 総研大、4. 情報通信研究機構、5. 名古屋大学、6. 広島大学、7. 茨城高専

1. Japan Atomic Energy Agency, 2. National Institute of Polar Research, 3. SOKENDAI, 4. National Institute of Information and Communications Technology, 5. Nagoya University, 6. Hiroshima University, 7. National Institute of Technology, Ibaraki College

A physics-based warning system of aviation exposure to solar energetic particles, WASAVIES, is improved to be capable of real-time and automatic analysis. In the improved system, the count rates of several neutron monitors (NM) at the ground level, as well as the proton fluxes measured by the GOES satellite are continuously downloaded at intervals of 5 min and used for checking the occurrence of ground level enhancement (GLE). When a GLE event is detected, the system automatically determines the model parameters for characterizing the profiles of each GLE event, and nowcasts and forecasts the radiation dose rates all over the world up to 24 h after the flare onset. A web-interface of WASAVIES (see picture below) was also developed, which broadcasts radiation dose rates due to cosmic-ray exposure for all over the world as well as on 9 selected flight routes at intervals of 5 min and 1 day during GLE and the other periods, respectively. It is planned to be in operation from March 2019 through the public server of NICT.

キーワード：太陽高エネルギー粒子、放射線被ばく、宇宙天気

Keywords: solar energetic particle, radiation exposure, space weather

