Intensity variation of energetic particles in SAA region observed by Japanese satellite, SERVIS-1

M. Hareyama(1), M. Fujii(1), N. Hasebe(1), S. Kodaira(1), Y. Mita(1), K. Sakurai(1), M. Akiyama(2), K. Ichiji(2), K. Hama(2)

(1) Advanced Research Institute for Science and Engineering, Waseda University, 3-4-1 Okubo, Shinjuku-ku, Tokyo 169-8555, Japan (m-hare@waseda.jp / Fax: +81-3-5286-3897) (2) Institute for Unmanned Space Experiment Free Flyer, Shinko building 2-12, Kanda-Ogawamachi Chiyoda-ku, Tokyo 101-0052, Japan

Observations made by the Japanese engineering satellite called SERVIS-1 are presented for the behavior of energetic particles being trapped in both the inner and outer radiation belts inside the earthĄfs magnetosphere. Detailed observations by SERVIS-1 at 1000 km in inclination of 100 deg were made for South Atlantic Anomaly (SAA). We have found that the variation of proton intensity in the SAA region is different between the central region of SAA and the other region. In the central region, the proton intensity had been enhanced after large magnetic storms and then decreased for long extended term, while the intensity of proton in the edge of SAA remained rather stable. In the case of electron, its intensity is stable in the central and edge region, particularly in the central region of SAA. We also have found some large differences of variation of intensities between the regions in SAA and in non-SAA region for both proton and electron, respectively. These results may indicate that SAA particles are generated by some other mechanism in addition to albedo neutron from galactic cosmic rays.