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RADIATION BELT OBSERVATIONS RELATED TO THE SPACE WEATHER IN JAPAN  
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**Abstract**

Space environment that causes satellite anomalies and negative effects to the human activities both in space and on the ground is referred to as space weather. In order to develop good ways to avoid such risks, it is important to gather information on space weather and to have best practice for mitigating the risks. Space-based observation has been conducted by JAXA (Japan Aerospace Exploration Agency) for the monitoring of the space environment. Actually JAXA is now installing space environment detectors on 5 satellites (LEO; 2, GEO; 2, and QZS; 1) and ISS (International Space Station) / JEM (Japan Experimental Module). These data have been provided in real time or quasi-real time via the JAXA website (<http://sees.tksc.jaxa.jp>). In the past, JAXA experienced satellite anomalies in several space weather events, in which JAXA satellites were collecting space environment data. Such space weather events are discussed based on the observed data. We also demonstrate radiation belt empirical models, which have been developed in JAXA for the use of the forecast of the radiation belt variation. Key findings in the radiation belt science are also discussed with a particular attention to the connection between outer belt and inner belt.