

## 太陽放射線による航空機被ばく警報システム WASAVIES WASAVIES: Warning System for Aviation Exposure to Solar Energetic Particles

片岡 龍峰<sup>1\*</sup>; 佐藤 達彦<sup>2</sup>; 久保 勇樹<sup>3</sup>; 塩田 大幸<sup>4</sup>; 桑原 孝夫<sup>5</sup>; 八代 誠司<sup>6</sup>; 保田 浩志<sup>7</sup>  
KATAOKA, Ryuho<sup>1\*</sup>; SATO, Tatsuhiko<sup>2</sup>; KUBO, Yuki<sup>3</sup>; SHIOTA, Daikou<sup>4</sup>; KUWABARA, Takao<sup>5</sup>; YASHIRO, Seiji<sup>6</sup>; YASUDA, Hiroshi<sup>7</sup>

<sup>1</sup> 極地研, <sup>2</sup> 原子力機構, <sup>3</sup> 情通機構, <sup>4</sup> 名古屋大学, <sup>5</sup> デラウェア大学, <sup>6</sup> 米国カソリック大学, <sup>7</sup> 放医研  
<sup>1</sup>NIPR, <sup>2</sup>JAEA, <sup>3</sup>NICT, <sup>4</sup>Nagoya University, <sup>5</sup>Delaware University, <sup>6</sup>CUA, <sup>7</sup>NIRS

Solar energetic particles (SEP) sometimes induce air shower that significantly increase the radiation dose at flight altitudes. In order to inform the situation of such a space radiation hazard to aircrews, a physics-based forward model is developed as WASAVIES (Warning System for Aviation Exposure to SEP) based on focused transport equation and Monte Carlo particle transport simulation code PHITS. WASAVIES gives the fastest and simplest way to predict the time profile of dose rate during ground-level enhancements (GLEs).

キーワード: 太陽プロトン, 放射線被ばく, 太陽フレア, 空気シャワー  
Keywords: solar proton, radiation dose, flares, air shower