

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)  
Calling Planet Earth - Space Outreach to the General Public (6)

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IMPORTANCE OF OUTREACH ACTIVITIES FOR SPACE DEBRIS ISSUES

**Abstract**

We, Japan Space Forum, have been conducting outreach activities in Japan since 2008 because JSF own and operate dedicated space debris observation facilities in Japan such as telescopes and radar. Data have been delivered to JAXA and they are using for collision avoidance forecast to JAXA's satellites and transfer those data to JSpOC based upon US-Japan mutual agreement. Since the first artificial satellite, SPUTNIK, number of man-made objects has been increased gradually toward year 2000. China conducted ASAT in 2007 and US satellite Iridium and Russian metrological satellite were crashed in 2009 so that more than 5,000 pieces of fragmentations were created. JSpOC open to public those data but people in general don't know such situation even though JSpOC is observing about 23,000 pieces of space debris on daily bases. The Kessler syndrome, also called the Kessler effect, collisional cascading or ablation cascade, proposed by the NASA scientist Donald J. Kessler in 1978, is a scenario in which the density of objects in low Earth orbit (LEO) is high enough that collisions between objects could cause a cascade. Some people say that we are facing real Kessler syndrome today. In Japan, Mr. Makoto Yukimura published his cartoon titled "PLANETES" in 1999 in which young guy is working for space debris sweeping job by his own space ship. It is a story in time of 2070es. This cartoon is very famous for not only Mr. Kessler but also other space debris scientist and engineers worldwide. JSF has held International Symposium on Sustainable Space Development and Utilisation for Human kinds since 2012 in Tokyo. Our purposes of this symposium are outreach for not only people of Japanese governmental officials but also general public. We have had more than 400 people participants for two days each year and about 250 people are general public. There are no such events in the world. From Japan's fiscal year of 2015, the Office of National Space Policy in Cabinet Office of GPJ hosted this symposium called "International Symposium on Ensuring Stable Use of Outer Space" in March 2016 instead of JSF. They also had same number of general public people in this event. In this paper, I would like to introduce outreach activities for space debris issues to general public not only for school students but also elderly people.