

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
Lift-Off - Secondary Space Education (2)

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SPACE EDUCATION PROGRAM USING ALOS-2 EARTH OBSERVATION DATA

Abstract

Earth observation data from satellites are very attractive material for the space education. Our purpose is to develop educational methods that children can analyze satellite observation data from the original raw data and develop their own thinking from their analysis. We have developed teaching methods and materials for children forming their concepts which are required for recognizing and analyzing satellite observation data after some learning and experiences, and also have developed the software which children and their educators can easily use. This software has capability to handle the SAR data. ALOS-2 which is L-band SAR satellite was launched on May 2014. Recently we clarified the fact by experiments and numerical simulations that the length of the side of a corner reflector (CR) should be greater than or equal to three times of the wavelength in order to detect the electromagnetic wave on the ALOS-2 reflected by the CR on the ground. This means that it is enough to be about 90cm for the side length of the CR. Then we developed the CR which is easily creatable for children. Therefore, we established a space education program "Let's expose ourselves on ALOS-2 data" with the YAC (Young Astronauts Club) and with co-operation of the JAXA-EORC (Earth Observation Research Center). Seminars for educators were held in various places in Japan. As a result, about 20 groups in Japan implemented the program. We think that this program has a force for children and their educators to feel the outcomes of the space science and technology and also to feel their native land in their daily life.