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APPLICATION OF THE EDUCATIONAL PROGRAM FOR THE SATELLITE GROUND STATION OPERATION

Abstract

In Kushiro College, National Institute of Technology, we had started Nano-satellite and Weather-satellite Ground Station system design for the student graduation research since 2011. We had established and implemented the NOAA weather satellite Ground Station for VHF in 2012 and S-band system in 2014. We are also now developing the Nano-satellite Ground Station as the student's educational programs. Around twenty Universities in Japan had started their own Nano-satellite project since early 2000. The establishment of new educational program and venture program using Nano-satellite project should became very ideal approach and spread out in these years.

However, college students do not have enough chance to have the space project and it is still extremely difficult to start the Nano-satellite project. Then, we changed this thinking and we decided to start from feasible technology and then aim for goal. This feasible technology should be the "Satellite Ground Station". The Satellite Ground Station can provide the motivation for the mission design and configuration through the hand-on learning of the real satellite data receiving and analysis, and can be possible to utilize for the practical engineering training in college.

Even Nano-satellite project has a reality of the complex engineering and technology, the Ground Station for the satellite is a part of reality for this program.

The first aim of this Ground Station was for the student educational programs. As the developmental application, the "Space Communication Experimentation" using this Ground Station for NOAA image data receiving was newly adopted one of items for the regular student coursework since 2013. In addition, the application of the NOAA satellite weather image could open up a whole range of possibilities in the field of the student remote sensing observation.

In this paper, we will describe the current evaluation and possibilities in the future for our Satellite Ground Station Operation.