

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
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ARRISS AS AN EFFECTIVE TOOL TO ENGAGE MIDDLE SCHOOL STUDENTS

Abstract

ARRISS stands for Amateur Radio on the International Space Station, a program that orchestrates radio contacts with the ISS for educational purposes. Groups propose for a contact a year in advance before being selected to move forward with either a telebridge contact, a method using telephones to connect students with the ground station which is at a secondary location, or direct radio contact, a method having the students present at the ground station. This specific direct radio contact targeted eighth grade students, aged 13 to 14 years old, from local middle schools. Over the course of three months, each classroom was visited four times to prepare for the contact and to learn more about STEM: Science, Technology, Engineering, and Math. During the visit, the students would learn about the new topic and then get to participate in a hands on activity relating to what they had just learned. Topics covered in those visits included the International Space Station, especially the construction, astronauts aboard, and current science experiments, satellite tracking, electromagnetic waves, amateur radio, basic Newtonian physics, rocketry, and careers in STEM. On February 19th, 2016, all of the students from the four classrooms were brought to the ground station for the radio contact. Selected students from each classroom asked US Astronaut Tim Kopra 18 questions about living in space and being an astronaut during the roughly 10 minute window. This paper will focus on what the students took away from the event, including lessons learned and the impact of the radio contact, and why this method of the students' direct involvement was effective in inspiring students to pursue STEM fields.