

SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)
Advanced Systems (2)

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EVALUATION OF THE OPTICAL COMMUNICATION SYSTEM FOR SMALL OPTICAL
TRANSPONDER (SOTA) BASED ON THE LABORATORY TEST**Abstract**

Recently, the development of small satellites has been particularly active. Nano-class satellite often uses several kbps communications by employing ham radio communications because nano-class satellites don't have enough onboard resources. If one wants to increase the data rate in RF, the more resources are required. One of the solutions is to use optical communication systems which have advantage points such as higher data rate, no regulation, small transmitter and receiver and low power consumption. The National Institute of Information and Communications Technology (NICT) has begun development of a Small Optical TrAnsponder (SOTA) on board a small satellite, which is called the Space Optical Communications Research Advanced Technology Satellite (SOCRATES) project. We have been developing the ground test system for SOTA based on SH4 CPU. The communication system of SOTA uses SH4 CPU. The communication quality is evaluated with and without the error correcting codes. This paper presents the results of performance evaluation of ground transmitter system for the SOTA.