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Disruptive Energy Technology Demonstration Satellite

Successful Communication Established with "DENDEN-01"; Operations Started

On-orbit Demonstration of Various Energy Technologies and High-Load Missions Begins

A collaborative research group, led by Associate Professor Masaki R. Yamagata (Faculty of Chemistry, Materials and Bioengineering, Kansai University), Associate Professor Yoshihide Aoyagi (Headquarters for Innovative Society-Academia, University of Fukui), Associate Professor Kikuko Miyata (Faculty of Science and Technology, Meijo University), and ArkEdge Space Inc., has successfully deployed the CubeSat "DENDEN-01" (1U size, 10×10×10 cm) from the International Space Station (ISS), established communications, and have started its operations.

DENDEN-01 was deployed from the JEM Small Satellite Orbital Deployer (J-SSOD) of the Japanese Experiment Module "Kibo" on the ISS at 20:17 JST on Monday, December 9. Communications via test signals confirmed the successful acquisition of satellite data. Following a critical operation phase of about one month, DENDEN-01 will be ready to carry out planned demonstration experiments.

Key Points of This Announcement

- Successful deployment of DENDEN-01 from the ISS on December 9.
- Communications successfully established between the satellite and ground stations.
- Backup communication using a compact 920 MHz low-power transceiver successfully verified.
- On-orbit demonstration experiments have started.

About DENDEN-01

DENDEN-01 is a 1U CubeSat selected for the "J-CUBE Program," an initiative jointly organized by the Japan Aerospace Exploration Agency (JAXA) and the University Space Engineering Consortium (UNISEC) at the end of fiscal year 2021. The J-CUBE program provides opportunities for domestic universities and colleges to deploy CubeSats from the Japanese Experiment Module "Kibo" aboard the International Space Station (ISS). DENDEN-01 was selected for the 2021 Innovative Mission Proposal category.

DENDEN-01 will carry out on-orbit demonstrations of various energy technologies and high-load missions, including a temperature stabilizing device for power supply utilizing solid-solid phase change materials (SSPCM). These demonstrations will contribute to the future development of Nanosatellites including CubeSats.

References

DENDEN-01 Deployment Live Video (J-SSOD#30)

<https://www.youtube.com/watch?v=vvUthxds36A>

DENDEN-01 Project Official Website

<https://denden01.kansai-u.space/en>



DENDEN-01 deployed from the ISS (Photo: NASA)

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