

EARTH OBSERVATION SYMPOSIUM (B1)  
Interactive Session on Earth Observation (7)

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HERMES DELTA: THE USE OF THE DELTA OPERATION MODE OF THE  
HERMES-A/MINOTAUR INTERNET-TO-ORBIT GATEWAY TO TURN A LAPTOP IN TO A  
VIRTUAL EO GROUND STATION

**Abstract**

The Delta operation mode of the HERMES-A/MINOTAUR Internet-to-Orbit gateway built and operated by the Ecuadorian Civilian Space Agency (EXA) as part of the Ecuadorian Space Program (ESP) allows the real time routing of Earth observation satellite signals over the internet, this capability allows to turn a laptop computer with an internet connection in a full virtual ground station capable of receiving and processing pure APT and HRPT signals from orbiting EO satellites like the NOAA constellation.

Signal transmission methods and bandwidth saving policies will be discussed and so the structure of the gateway station, also automated APT and HRPT signal-to-image processing tools accessible to the common user. The potential use for climate change online monitoring and disaster prevention and/or early warning will be discussed too.

If possible, a live demonstration during the presentation could be done, depending on the satellite passes scheduling at the time of the presentation

Actual users of the HERMES Delta system includes the Ecuadorian Air Force as well as 3 schools and one University in Ecuador.

A major point is the novel use of this new technology for space education from the ground level, the A SATELLITE IN CLASSROOM program will be outlined, and actual case studies will be presented.