



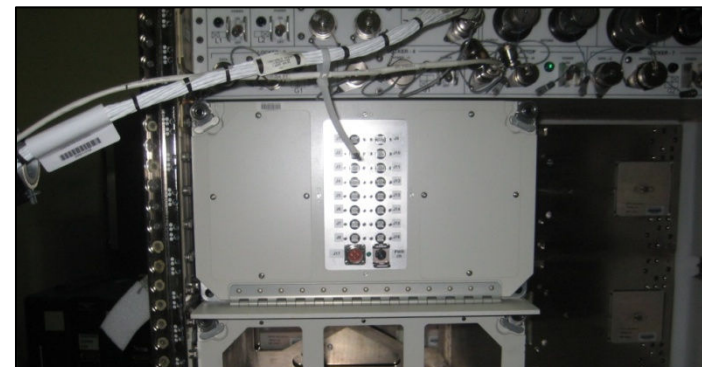
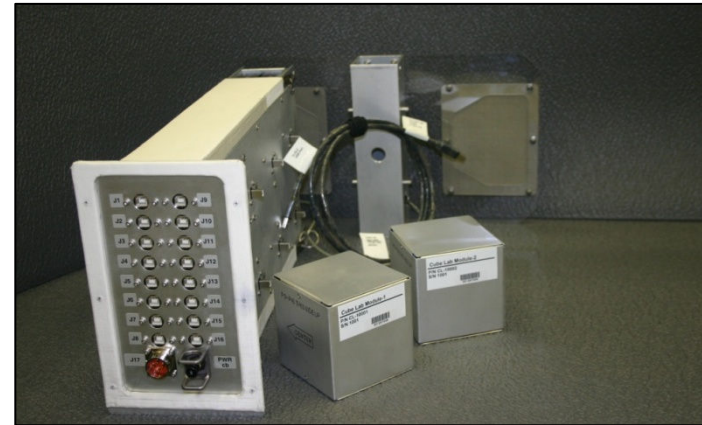
NanoRacks and CubeLabs
Affordable, Recurring, μ Gravity Research

Daniel Erb
CubeSat Summer Workshop

What is CubeLab?



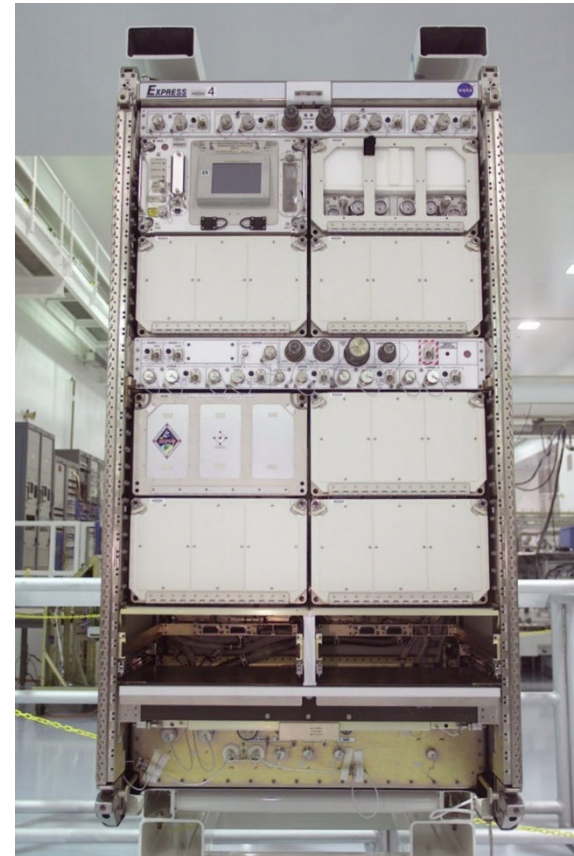
- ❑ Low cost, one kilogram platform for μ G research
- ❑ Repeatable Access
- ❑ Downmass Negotiable
- ❑ Based on CubeSat Standard
- ❑ Up to 4x2U currently allowable
- ❑ Interfaces to the NanoRack Frame



What is the NanoRack Platform?



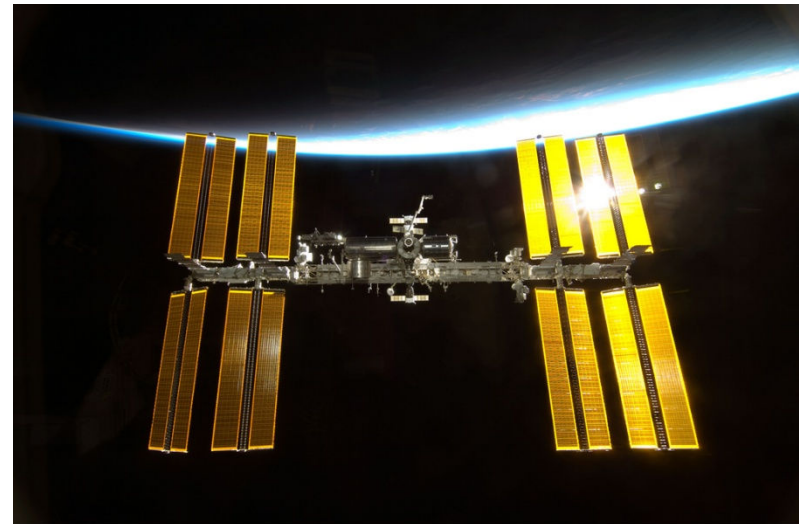
- ❑ Provides conditioned power and data connectivity to CubeLabs
- ❑ Room for 16 1U CubeLabs
- ❑ Leverages USB mass storage standard for data transfer
- ❑ Interfaces with Express Rack



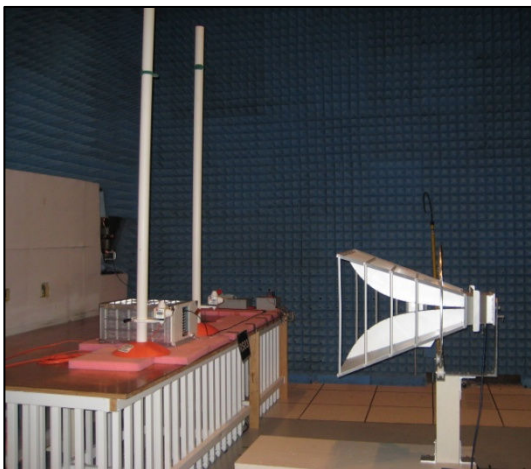
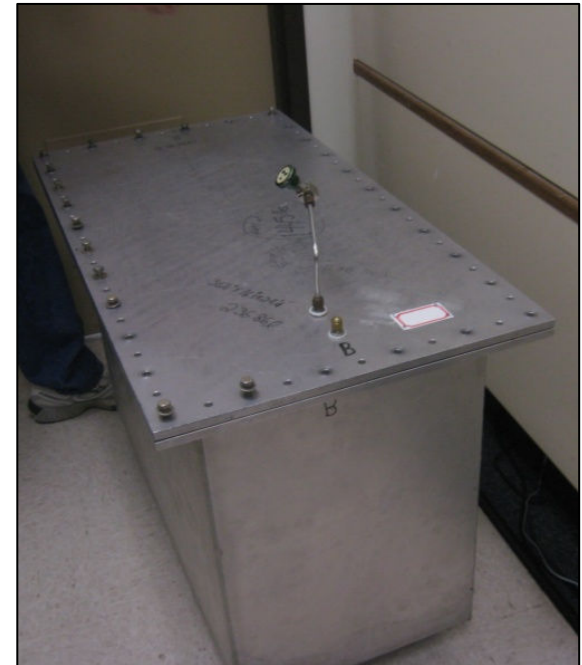
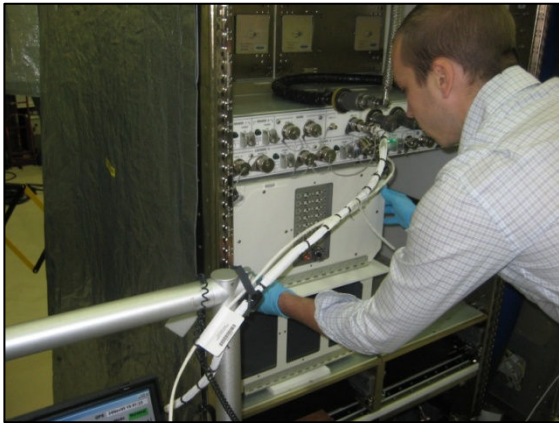
Road to the ISS



- ❑ One of the first National Lab payloads in the ISS
- ❑ Pathfinding “Ship and Shoot” protocol for flight readiness
- ❑ From initial designs to Kennedy delivery in <3 months



Testing



4/28/2010

CubeSat Summer Workshop

Delivery to KSC



4/28/2010

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Launch!!!



- ❑ Launched April 5 on STS-131 at 6:21AM
- ❑ Hardware to be installed and operated Mid-June by Shannon Walker



What Can CubeLab Do For You



- ❑ Not a CubeSat replacement
- ❑ Micro-Gravity Research
- ❑ Affordable, Recurring Access
- ❑ ICD Available for Developers
- ❑ Experiment space in the controlled environment of the ISS with the possibility of crew involvement and sample return

Future



- ❑ First two platforms and four CubeLabs to be installed Mid-June
- ❑ Radiation Experiments
- ❑ Operational Flow Test
- ❑ Future NanoRack platform to be “smart”, communicating with the ISS system and lessening the need for crew involvement

Thank You



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