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HEPTA SAT TRAINING

INTRODUCTION

- About HEPTA Sat
- Training process
- Mission
- Results
- Demonstration
- Conclusion

ABOUT HEPTA-SAT

DIMENSIONS

- Comparable to a CubeSat

COMPONENTS

- Command & Data Handling Board (CDH)
- Electric Power System & Comms Board (EPS & Comms)
- Sensor Board

PROGRAM GOALS

- Provide an understanding of the basic architecture of a small satellite
- Experience the development process
- Teach basic space systems engineering in a few days

TRAINING PROCESS

LAB #1 > **LAB #2** > **LAB #3** > **LAB #4** > **LAB #5** > **LAB #6**

- Programming of the On-Board Computer
- Electrical Power Supply System (EPS)
- Command & Data Handling (CDH)
- Sensor subsystem
- Communication and Ground Station
- Structure and integration

MISSION: LAB #7

CAMERA PICTURES

DEFINING SPECIFICATIONS OF PAYLOAD

BEAMING COMMANDS BY LASER
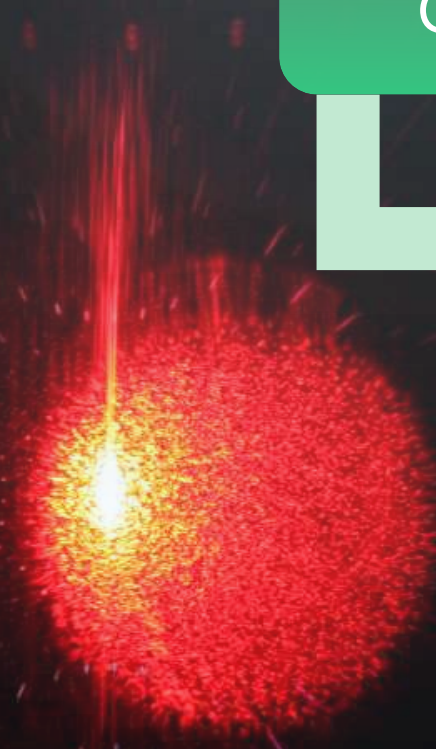
MISSION: LASER SIGNALLING PROCESS

POINTING
- Satellite light sensor receives laser signal from pointer

READING
- Controller confirms the signal source is a laser pointer

FEEDBACK
- Satellite LED confirms receipt of message

RESULTS

| Successfully demonstrated a basic laser communication capability | Used basic HEPTA-Sat codes to program LED response | Proved excellent educational value of the HEPTA-Sat program |

CONCLUSION

- The HEPTA-Sat training has provided great practical insight into space systems engineering

- It also provided an opportunity to create a useful mission concept

- It significantly improved the skills of the participants and the benefits to those involved.

THANK YOU!