

## **Constellation Cube Satellite Avionic Systems Test Platform**

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### **ABSTRACT**

Constellation Cube Satellites require a wide suite of integrated avionic systems for constellation flight. By use of a Test Platform, critical segments can be developed, programmed, and physically tested individually on the ground before space flight. Optical systems including cameras and LIDAR are used as inputs to drive “navigational system” XYZ translation and Euler angle motors based on preprogrammed functions. Functional testing includes optical tracking, distance detection, navigational flight controls, and rendezvous docking sequencing. This work provides the University of Nevada Las Vegas with means to progress Cube Satellite research.