



THE PROBLEM

As CubeSats are becoming more sophisticated and are being used in more advanced missions, the traditional attitude determination and control system (ADCS) used in CubeSats is not up to the task. Advanced ADCS systems and thrusters, which are used in bigger satellites, are large, complicated, costly and power hungry, making them inappropriate for use in CubeSat.

This project aims to develop an advanced attitude determination and control system (AADS) for CubeSats and small satellite.



THE SOLUTION

This project aims to pioneer Australia's first vectored thrust technology for small satellites, using a state-of-the-art deformable structure. This cutting-edge system will be integrated into Azista's attitude control system (ADCS), offering unprecedented precision manoeuvring and responsiveness to small satellites enabling them with new capabilities for applications in earth observation, secure communications, and optical alignment.



RESEARCH CAPABILITY

ANU - Institute for Space (InSpace)

- Design and manufacturing space qualified equipment.
- Space qualified thruster (Plasma and cold gas) design and manufacturing.
- Space environment test facility.
- Thrust measurement in vacuum.
- Vibration test according to NASA requirement.
- Vacuum Ultra Violet Test Facility (Solar Radiation simulation).



PROJECT PARTNERS



Australian
National
University



CONTACT DETAILS - PROJECT LEAD

Project Lead: Dr Mahdi Davoodianidalik
Email: mahdi.Davoodian@anu.edu.au