

## **The University of Adelaide AIAA Student Branch**

### **Annual Report 2000**

#### **Rocket Payload Design, Build and Launch Woomera, October 2000**

On the long weekend of September 30th to October 2nd 2000, eleven AIAA Student Branch members and friends travelled to Woomera, 500km north of Adelaide, to take part in the Australian Space Research Institute (ASRI)'s annual October Trial Campaign. A total of eight rockets were launched over two days, with one rocket carrying two payloads designed and built by students of Adelaide University, including several AIAA members.

The experimental payloads designed and built by Adelaide University students consisted of infrared detectors, PIN diodes and accelerometers. This allowed the rate and sense of the rocket's rotation to be calculated, and to determine whether the rocket experienced micro-gravity conditions during its flight.



The payload built to be launched on a Zuni rocket



The Zuni rocket recovered after flight

Data was successfully retrieved from the Rocket Data Acquisition System used, resulting in successful projects for students of both the Department of Physics and Mathematical Physics and the Department of Mechanical Engineering.

The launches were generally viewed from the ASRI observation area approximately 1km away from the launch pad. However, three students were lucky enough to experience the deafening launch of the Adelaide University payload from inside the bunker under the launch pad (where Samantha Carter enjoyed the honour of triggering the ignition of the rocket).

A paper written by students involved in the 2000 payload project was presented by Samantha Carter at the Australian International Aerospace Congress in Canberra in March 2001.

While at Woomera some students also took the opportunity to visit the Adelaide University's Cangaroo Gamma Ray Telescope.



### Model Rocket Launches

As the final Branch event for the 2000 academic year, the AIAA Student Branch held model rocket launches for the first time. Members built their own "gnomes", then enjoyed sunshine and softdrink in the parklands as they launched their rockets.



Building the 'gnome' rockets



Preparing the rockets for launch in the parklands

### Stockport Observatory

In November, AIAA Student Branch members were invited to enjoy a night of astronomy at the Stockport Observatory, in a visit organised by affiliated Physics club SPACED. Stockport Observatory is located in the small town of Stockport, approximately 70kms north of Adelaide. The observatory is owned by the Astronomical Society of South Australia, and houses a 0.5 metre Newtonian-Cassegrain reflecting telescope which was built in 1986. The telescope is equipped with a computer controlled drive, a photometer and an ST-6 CCD camera. The location (well away from city light pollution) and clear skies gave an outstanding opportunity to observe the moon, Venus, Jupiter and Saturn, and some well-known celestial features.

