

Experiences with the NewMag Magnetometer Payload on FedSat

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FedSat is a 58 kg microsatellite developed by the Cooperative Research Centre for Satellite Systems [1], an Australian consortium of university and industry partners. It carries a number of payloads including a high sensitivity, high sample rate magnetometer, NewMag. The NewMag sensor is deployed at the end of a 2.5 m boom. FedSat was launched into an 800 km altitude polar orbit on 14 December 2002, and has been successfully operating since then. Although a new venture for Australia, FedSat has proven highly successful. For example, in what is believed to be a world first, *FedSat*'s High Performance Computing Experiment was able to detect a fault caused by stray space radiation, analyse the problem, and restore itself to full capability. In addition the NewMag has operated continually, returning new data on the microstructure of current systems in the polar regions, ULF waves, and magnetic conditions during space weather events that damaged other spacecraft. This presentation gives an overview of FedSat and its payloads, and describes NewMag in detail. Particular attention is given to new science results from the NewMag space science project.

References

[1] http://www.crcss.csiro.au