

SPACE PHYSICS RESEARCH AT LA TROBE UNIVERSITY

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ABSTRACT

The La Trobe Space Physics Research Group [<http://www.latrobe.edu.au/www/physics/space/space.htm>] includes staff from the Departments of Physics and Electronic Engineering. The group studies the basic physical causes of space weather phenomena in geospace, the interface between Earth and interplanetary space. The investigations are based primarily on three experimental techniques: the Tasman International Geospace Environment Radar (TIGER) dual HF radar system; optical spectrometers used to study auroral and airglow emissions; and GPS tomography using the Australian satellite FedSat. Theoretical studies include radio wave scattering theory and the development of ray tracing and inversion techniques applicable to research sounders and radars and, to applications in surveillance techniques and radio communications. This poster presents an overview of the research program.