

U054-002

Room: Ocean B

Time: May 14 9:30-10:00

In situ studies of shock acceleration

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The heliosphere is an ideal laboratory for theories of astrophysical particle acceleration. In situ observations of the Earth's bow shock and interplanetary shocks allow us to study elementary processes involved in the theories. Our particular interest is in the so-called Diffusive Shock Acceleration (DSA) and associated pre-acceleration mechanisms. We will review recent observational progresses of shock acceleration of both ions and electrons at the Earth's bow shock and interplanetary shocks. The topics we will review include field-aligned ion beams, diffuse ions, whistler critical Mach number, electron DSA, etc.