

OreSat Electrical Power System

Thursday, 9 December 2021 15:20 (20 minutes)

The OreSat electrical power system is a fully modular and scalable CubeSat EPS designed to support a wide array of payload power demands. We will start with OreSat's modular solar panel system, which includes an embedded high frequency switching-power-supply and software-defined maximum power point tracker. We will then discuss the OreSat battery card, which is a redundant 7.2V 35 Ahr Li-ion pack with integrated nanoracks/ISS compliant inhibit switches; multiple cards can also be added in parallel to increase capacity. Finally we'll discuss the OreSat backplane and the OreSat Power Domain, which gives the onboard computer card the ability to independently power each card and has built-in current monitoring and circuit breaker capabilities.

Primary authors: LAY, David (Portland State Aerospace Society); GREENBERG, Andrew (Portland State Aerospace Society)

Session Classification: Talks