Space Physics Seminar

Thursday, October 19, 2017

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The Rise of Small Satellites and the Potential Scientific Impact

Small satellites and especially cubesats have gained significant notoriety in recent years with the increase in cubesats on orbit and the release of a National Academies report. Since the initial launch of cubesats in 2003 the number of spacecraft, institutions and countries participating in small satellite programs has grown exponentially. The development of canisterized satellite deployers, rideshare, secondary payload consolidators and small satellite technologies has enabled the small satellite revolution and will impact how we use space in the future. The barrier to entry for space has been reduced significantly, enabling universities and scientists to develop novel missions and conduct cutting edge science with cubesats.

In this talk I will provide an overview of the development and evolution of cubesats including the current state of the art. This will be complemented with a description of four small satellites that have been built, launched and operated by the University of Colorado. These include the Drag and Neutral Density Explorer (DANDE), the Colorado Student Space Weather Satellite (CSSWE), the Miniature X-ray Solar Spectrometer (MinXSS-1) and QB50-Challenger, all of which are space weather related small satellite science missions. The talk will conclude with a short discussion about cubesat missions that are currently under development at the University of Colorado Boulder and some musings about the future.

4:00pm in CAS 502. *Refreshments served at 3:45pm in CAS 500.*

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Next Week

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