

Abstract Submitted
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CubeSats in Space Science RUSSELL STONEBACK, University of Texas at Dallas — The history of space science satellite missions and instrument development has largely been driven by custom scientific hardware on expensive satellites designed, built, and operated by large teams. The rise of CubeSats, small spacecraft built in discrete cubical segments (10 x 10 x 10 cm is 1U), offers an alternative to this paradigm. CubeSats began with hardware designed by small student teams at universities. Now there are a broad range of companies developing CubeSat hardware that potentially offer performance suitable for scientific missions. The Center for Space Sciences (CSS) at the University of Texas at Dallas has been developing satellite instrumentation to support science since the OGO-6 mission (June, 1969). The Ion Velocity Meter (IVM) developed by the CSS measures thermal plasma properties, density, ion temperature, composition, and velocity. Eight of these instruments are scheduled to fly on the upcoming NASA Ionospheric Connections (ICON) Explorer and the NOAA/NSPO Cosmic-2 constellation mission. A CubeSat version of the IVM is on the upcoming NASA SORTIE and SPORT CubeSats. An overview of the IVM, the translation to the CubeSat platform, upcoming missions, and student opportunities will be given.

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