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**The Development of a 3P PocketQube** KEVIN ZACK, Sonoma State University, J. GARRETT JERNIGAN, Little H-bar Ranch, LYNN COMINSKY, Sonoma State University — MagPocketQube is a first generation 3P (size 5 cm x 5 cm x 15 cm) PocketQube which flies instrumentation. The project is a collaboration between undergraduate universities Moorehead State (MSU) in Kentucky and Sonoma State (SSU). The purpose of this project is to develop a platform for future space-based science experiments. This first 3P satellite is one of the smallest, stand-alone satellites to send both a radio beacons and instrumentation telemetry. MagPocketQube is scheduled for a November 2013 launch into a polar low-earth orbit. Flight software is written in the programming language MicroLogo (ulogo) which makes this satellite the ideal platform for experimental space science. Commands in the form of new ulogo code can be created, uplinked and executed in real time. Additionally, a safe mode protects the health of the battery and reboots the flight code every 25 hours, saving the satellite from coding errors or single-event upsets. This work is the precursor stage for a next generation PocketQube, which will fly a Cadmium-Zinc-Telluride (CZT) array to detect hard cosmic X-Rays and particles while measuring properties of the Earth's magnetosphere.

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