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Stratospheric Studies Using High Altitude Ballooning DYLAN WOOD, JUSTIN OELGOETZ, Austin Peay State University — Stratospheric balloons serve as a relatively inexpensive and simple method to study a unique environment with extremely low temperatures and pressures, far above most of the atmosphere. Such balloons can be used to carry a wide variety of experiments ranging from Geiger counters for cosmic ray studies to simple environmental sounders. Austin Peay State University has built a flight system and conducted an initial high altitude balloon launch to test hardware and design feasibility. Through use of an Automatic Packet Reporting System (APRS) beacon, the first balloon was successfully tracked to a maximum altitude of approximately 95,000 feet and retrieved from its landing zone in rural Wilson County, TN. Subsequent launches are underway and will test on-board data acquisition hardware. Results of analysis of data from the on-board 3-axis accelerometer, 3-axis magnetometer, temperature probe, Global Positioning System (GPS) units, and camera will be presented, along with a sketch of future experimental plans.

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