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Measurements of Atmospheric Physics with a Weather Balloon¹ DARBY THOMASON, PRZEMYSLAW PIOTROWSKI, TYLER YUZWALK, RUTH WILLET, MCKENDRY EVANS, TIMOTHY STILES, RONALD E. KU-MON, Kettering University — The Kettering University Physics Club built, launched, and recovered a weather balloon, which was tracked in real-time using a radio transmitter. The balloon traveled 45 km from the launch location and reached an altitude of 35 km at its peak. The flight computer took measurements of atmospheric pressure, temperature, and speed as a function of latitude, longitude, and altitude. A 360-degree camera was also used to acquire continuous video during the 3.75 hour flight and resulted in some stratospheric images of southeastern Michigan distinctly showing the curvature of the Earth. The measured profiles of temperature as a function of altitude were approximately consistent with the model of the U.S. Standard Atmosphere.

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