Results from Lenoir-Rhyne Balloon Team Payload Launched During August 21, 2017 Eclipse

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Abstract
The Lenoir-Rhyne Eclipse Balloon Team participated in the National Eclipse Ballooning Project and launched a balloon with payload from Pisgah Astronomical Radio Institute. Payload apogee was 99.470 feet, with balloon burst during local totality. The team was able to track the balloon during flight, stream video during the ascent, take multiple pictures close to apogee and successfully fly and retrieve a student designed payload. Tracking information and data from nominal and student designed payloads is presented.

Ground Station
The Ground Station used to communicate information between the payload and our team throughout the balloons flight profile.

Nominal Payload and Launch
Balloon Payload specified by Eclipse Ballooning Project

Results
Flight Profile of Balloon and Payload

Graphs from Payload Sensors
Red Lines/Dots: Descension of Balloon
Blue Lines/Dots: Ascension of Balloon

As the balloon gained altitude the humidity decreased. The humidity percentages increased as it descended. Storms were present near the area it landed.

Temperature from inside the enclosure during its ascend and descend

Conclusion
The Lenoir-Rhyne Eclipse Ballooning team successfully launched, tracked and retrieved a balloon payload for the 2017 Eclipse Ballooning Project. The team track streamed video to the NASA website during ascent, took pictures of the shadow of the Moon as it traveled across the Earth. From a student designed and built payload, the team recorded temperature, pressure and humidity during flight. The team wishes to thank North Carolina Space Grant for funding of this project.