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# Developing Sonde Instrumentation to Improve the Accuracy of Upper-Atmospheric Data Aggregation

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## **Developing Sonde Instrumentation to Improve the Accuracy of Upper-Atmospheric Data Aggregation**

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A GPS tracking system for recovering weather balloon packages was designed and tested, and research was also conducted to determine the practicality of a gyroscopic stabilization system for small weather balloon packages. A low budget prepaid phone served as the main component of the GPS recovery system, which proved reliable in several areas of testing. A twin flywheel system powered by small brushless motors failed to stabilize a small weather balloon package when compared to stabilization from strategic weighting of the package.

### *Information about the Authors:*

Mark Spsychala is a junior meteorology major with training in the preparation and launch of ozonesonde balloon payloads. Nate Behrens is a junior mechanical engineering major with a keen interest in wind power technologies. Raymond Finzel is a junior computer science major. He is a self-starter who conceptualized this project as the best way to combine his interests in making things, leading a group, and going into space. Special thanks to Samuel Cain, Nathan Chamot, and Colin Johnson for their hard work during the research season.

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