

Abstract Submitted
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**Navigation Orientation for Returning a Launched
Rocket/Payload by Parafoil**¹ OSCAR SCHOTT, Calvin University (and, Naval
Postgraduate School) — My goal during my summers research was to create a viable
form of navigation intended for use with a parafoil-guided payload from rocket or
high-altitude balloon launches. The largest challenge I met in completing my goal
was finding a suitable method for correcting the payloads course without the use of
a magnetometer (aka a compass), as we cannot rely on the magnetometer because
magnetic interference generated by the payload renders it a very light paperweight,
and without the ability to reference bearing, it is very difficult to complete the course
corrections needed to navigate to a specified target. My initial use of GPS failed.
Additionally, I coded, and engineered a gyro/accelerometer combination which will
be able to detect turbulence, something the magnetometer is not capable of. Accu-
racy, on the other hand, is something the two sensors cannot achieve without further
perfection of my algorithm - which is a work in progress.

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