



Aeronautics

AeroPod

Aerodynamically stabilized instrument platform

The AeroPod is a passive device that uses aerodynamic forces to stabilize an instrument package suspended from a kite or tethered blimp. It is a low-altitude custom remote sensing platform craft designed for, but not limited to, agricultural and environmental research purposes. AeroPods can be used for a variety of remote sensing and in-situ observations.

BENEFITS

- Light weight, simple to construct, and has no moving parts.
- Can be used for a variety of remote sensing and in-situ observations.
- Able to accommodate many different-sized instruments, even bulky ones.
- Offers a low-cost alternative to other remote sensing and observation techniques.

technology solution



THE TECHNOLOGY

The AeroPods design for steadying and damping payloads includes the use of a tail boom and fin combination. It is a novel design and provides a relatively simple alternative to the traditional methods for suspending equipment from kites or blimps.

The AeroPod is superior to the traditional Picavet pulley-style suspension system for kite-flight because its light weight, simple to construct, and has no moving parts. Furthermore, the AeroPod design is advantageous to the traditional tethered blimp suspension technique where tether motion is translated directly to the sensor system because the AeroPod is free of direct motions of the tether.



The Air Column Profiler Aeropod, being flown by a kite in the above photo, is used to capture a variety of atmospheric parameters throughout the air column.

APPLICATIONS

The technology has several potential applications:

- ➔ Agricultural and environmental research purposes
- ➔ Observing and documenting forest canopy and cover
- ➔ Taking wetland studies
- ➔ Archeological and geological mapping
- ➔ Urban pattern mapping
- ➔ Crop monitoring

PUBLICATIONS

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