



Intelligent Attitude Determination and Control

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Summary

The University of North Dakota has patented systems and methods for intelligent attitude determination and control systems (ADCS). The ADCS may be used for passive or active stabilization of spin on multiple axes. The system uses an incorporated autonomous control algorithm to characterize the effects of actuation of the system components and simultaneously trains its response to attitude actuators.

Advantages

- System can be applied to multiple vehicle types to determine the vehicle's attitude relative to an external reference point.
- Includes multiple modes spanning from a passive stabilization of two axis and unconstrained spin on a third axis to a three-axis full active stabilization.
- Movement model is used to indicate or predict the effect of the use of one or more attitude actuators.

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