

2008 Summary of Research Reports

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Project: Estimation Algorithms to Improve Spacecraft Attitude Determination and Control

Sponsor: NASA

Statement of Work:

The focus of this research is the development of algorithms for onboard spacecraft operations, specifically in the area of navigation and control. Work on an inertia parameter estimation algorithm will continue. The algorithm currently estimates all six of the spacecraft inertia parameters using data from gyroscopes. Work will begin on expanding the algorithm to include other sensors. In addition, research will begin on an algorithm to estimate the attitude of a spinning spacecraft using a star sensor and an accelerometer. The accelerometer also has the potential to provide data necessary to determine the center of mass of the spacecraft.