ASTROgyro

An integrated and cost efficient attitude sensor system

The ASTROgyro is an innovative system combining the advantages of both star sensors and gyroscopes in one product. Primary Benefits of the ASTROgyro include:

- Direct availability of both raw and merged data from all sensors (gyro & star sensors)
- Full redundancy (two star sensors and, for each axis, two gyro channels)
- Identical quality of attitude measurement for all axes (typ. 1 arcsec (1?)), including the out-of-plane axes of the star sensors
- Outage and Agility Bridging
- Coverage of a wide range of rates up to 20°s $^{-1}$
- Facilitation of AOCS FDIR (Fault Detection Isolation and Recovery)
- Optional use as Ultimate Safe Mode (USM) Sensor
- ITAR-free design available
- Suitable for LEO, MEO, and GEO Orbits

Due to the direct broadband communication between the ASTRO APS and the gyroscope, the signal noise of the star sensor is significantly reduced especially at higher angular rates. The gyroscope, in return, benefits from attitude measurement based in-situ re-calibration of drifts, scaling errors, and temperature effects.

The ASTRO APS star sensor has space proven heritage on LEO, MEO, GTO, and GEO orbits. The inertial reference unit has been designed to complement the ASTRO APS star sensor on all these orbits.

Additionally to the technical benefits mentioned above, customers will experience reduced integration and alignment efforts resulting in cost savings during the satellite AIT process. Thus ASTROgyro is the perfect solution for your AOCS needs.