COMMODITIZATION ADVANCES IN SMALL SPACECRAFT GN&C

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INTRODUCTION

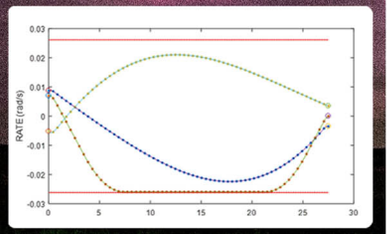
- BCT is a leader in developing and commoditizing state-of-the-art GN&C systems that push small satellite capabilities and performance.
- Current developments continue to expand and improve BCT's industry leading commercial-off-the-shelf (COTS) products.
- BCT COTS GNC components are leveraged in Microsat and Cubesat constellations.

NANO STAR TRACKER

- Next generation NST capable of sub-arcsecond cross-boresight performance
- Identical SWaP (1/4U, 1.5W, 0.35kg) as previous generation
- Shares most design elements as previous generation
- An available option for any spacecraft demanding a star tracking system

ATTITUDE MANEUVER OPTIMIZER

- Autonomous onboard numerical attitude maneuver optimization
- Determines and plans the fastest achievable attitude maneuver
- Accounts for complex constraints on boundary conditions, maneuver-smoothness, actuator limitations, etc.
- Maximizes collection capacity of agile remote sensing spacecraft without SWaP increase



CONTROL MOMENT GYRO (CMG)

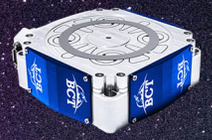
- BCT developed 12 Nms CMGs to exploit the tremendous agility advantages versus reaction wheels
- High control accuracy and low induced vibration for precision pointing
- Unlimited gimbal axis angular range
- >10 year operation life
- Radiation hardened
- Redundant or single-string capable

GOING FORWARD

- Developing CMG8 for external sales and BCT small satellites
- XACT 4th Generation with higher reliability and performance

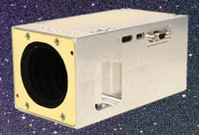
ON-ORBIT HERITAGE

REACTION WHEELS



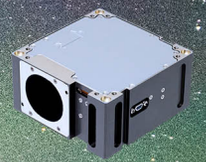
407

STAR TRACKERS



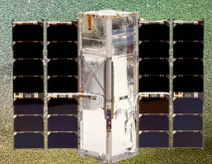
118

GNC SYSTEMS



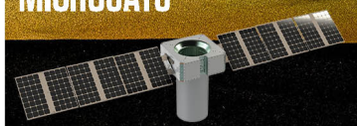
31

CUBESATS



22

MICROSATS



9