Bachelor Thesis

Satellite constellation flying or approaching concepts

Designing and developing formation flying concepts for small satellite constellations is a cutting-edge area in space systems engineering. These concepts enable coordinated operations such as Earth observation, scientific measurements, and communication networks.

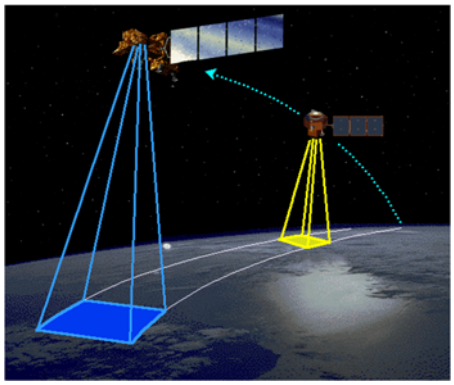
- Formation flying involves multiple satellites maintaining precise relative positions while orbiting Earth. This requires sophisticated guidance, navigation, and control systems.
- Key challenges include: Limited onboard propulsion and power, communication delays, need for autonomous decision-making in dynamic orbital environments and other CubeSat and Space Debris Mitigation relevant constraints

Your Tasks

- Review of missions using formation flying and the concepts used
- Analysis of the concepts and identification of the problem areas
- Identification of possible application fields for formation flying
- Identification of challenges and problems faced, especially for small satellite platforms

Your Profile

- Interest in space activities
- Willingness to actively engage in research work
- Critical and analytical thinking



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