

Abstract

Prove di citazione [1] perché

Acknowledgments

Thanksss

Contents

A	bstra	t	iii								
Acknowledgments											
C	Contents										
Li	st of	Figures	ix								
Li	st of	Γables	xi								
Li	st of	Abbreviations and Acronyms	xiii								
1	Intr	oduction	1								
	1.1	Earth Observation and Remote Sensing	1								
		1.1.1 Hyperspectral imaging	1								
	1.2	Kuva Space	1								
		1.2.1 Company Vision	1								
		1.2.2 Infrastructure	1								
		1.2.3 Distribution	1								
		1.2.4 Applications	1								
	1.3	Thesis Purpose	1								
	1.4	Organization	1								
2	Bac	ground	3								
	2.1	Space Flight Dynamics Overview	4								
		2.1.1 Orbits	4								
		2.1.2 Orbital Perturbations	4								
		2.1.3 Mean Orbital Elements	4								
		2.1.4 Sun Synchronous Orbits	4								
	2.2	Repetitive ground tracks	4								
	2.3	Orbit Maintenance	4								
	2.4	Satellite Constellations	4								
		2.4.1 Walker Delta Constellation	4								
		2.4.2 Constellation Design	4								
		2.4.3 Constellation Maintenance	4								
	2.5	Differential Drag Method	4								

3	Sat	ellite Constellation Management Tools	5				
	3.1	Orbit Propagators	5				
		3.1.1 poliastro Python Library	5				
		3.1.2 Atmospheric Models	5				
		3.1.3 Mean Orbital Elements Converter	5				
		3.1.4 Sun Synchronous Orbits Functions	5				
		3.1.5 Satellite Constellation Propagator	5				
	3.2	Revisit Time Collector	5				
	3.3	Station-Keeping Simulator	5				
	3.4	Differential Drag Algorithm	5				
4	Cas	se Studies	7				
	4.1	Reaktor Hello World	7				
	4.2	Hyperfield Next Generation					
	4.3	Planet CubeSat Constellation					
	4.4	Future Kuva Constellation	7				
5	Analysis and Results						
	5.1	Reaktor Hello World Life Data	9				
	5.2	Hyperfield Orbit Maintenance Design	9				
	5.3		9				
	5.4	<u> </u>	9				
6	Conclusion						
${f Bi}$	iblios	graphy	13				

List of Figures

List of Tables

List of Abbreviations and Acronyms

Introduction

- 1.1 Earth Observation and Remote Sensing
- 1.1.1 Hyperspectral imaging
- 1.2 Kuva Space
- 1.2.1 Company Vision
- 1.2.2 Infrastructure
- 1.2.3 Distribution
- 1.2.4 Applications
- 1.3 Thesis Purpose
- 1.4 Organization

Background

2.1	Space	Flight	Dynamics	Overview
		()	•/	

- 2.1.1 Orbits
- 2.1.2 Orbital Perturbations
- 2.1.3 Mean Orbital Elements
- 2.1.4 Sun Synchronous Orbits
- 2.2 Repetitive ground tracks
- 2.3 Orbit Maintenance
- 2.4 Satellite Constellations
- 2.4.1 Walker Delta Constellation
- 2.4.2 Constellation Design
- 2.4.3 Constellation Maintenance

Satellite Constellation Management Tools

- 3.1 Orbit Propagators
- 3.1.1 poliastro Python Library
- 3.1.2 Atmospheric Models
- 3.1.3 Mean Orbital Elements Converter
- 3.1.4 Sun Synchronous Orbits Functions
- 3.1.5 Satellite Constellation Propagator
- 3.2 Revisit Time Collector
- 3.3 Station-Keeping Simulator
- 3.4 Differential Drag Algorithm

Case Studies

- 4.1 Reaktor Hello World
- 4.2 Hyperfield Next Generation
- 4.3 Planet CubeSat Constellation
- 4.4 Future Kuva Constellation

Analysis and Results

- 5.1 Reaktor Hello World Life Data
- 5.2 Hyperfield Orbit Maintenance Design
- 5.3 Planet Constellation Differential Drag Results
- 5.4 Kuva Constellation Management Results

Conclusion

Donec et nisl id sapien blandit mattis. Aenean dictum odio sit amet risus. Morbi purus. Nulla a est sit amet purus venenatis iaculis. Vivamus viverra purus vel magna. Donec in justo sed odio malesuada dapibus. Nunc ultrices aliquam nunc. Vivamus facilisis pellentesque velit. Nulla nunc velit, vulputate dapibus, vulputate id, mattis ac, justo. Nam mattis elit dapibus purus. Quisque enim risus, congue non, elementum ut, mattis quis, sem. Quisque elit.

Bibliography

[1] FOSTER, C., HALLAM, H., AND MASON, J. Orbit determination and differential-drag control of planet labs cubesat constellations. arXiv preprint arXiv:1509.03270 (2015).