

TECHNICAL UNIVERSITY OF CRETE

DIPLOMA THESIS

Design and Implementation of a Low Cost Embedded System for Localization of Drones Flying in Swarms

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TECHNICAL UNIVERSITY OF CRETE

Abstract

School of Electrical and Computer Engineering

Electrical and Computer Engineer

**Design and Implementation of a Low Cost Embedded System for
Localization of Drones Flying in Swarms**

by Christos SPYRIDAKIS

TODO: English . . .

ΠΟΛΥΤΕΧΝΕΙΟ ΚΡΗΤΗΣ

Περίληψη

Σχολή Ηλεκτρολόγων Μηχανικών και Μηχανικών Υπολογιστών

Ηλεκτρολόγος Μηχανικός και Μηχανικός Υπολογιστών

Σχεδίαση και Υλοποίηση Ενσωματωμένου Συστήματος Χαμηλού
Κόστους για Εύρεση Θέσης μη Επανδρωμένων Αεροσκαφών που
Πετούν σε Σχηματισμό

από τον Χρήστο ΣΠΤΡΙΔΑΚΗ

TODO: Ελληνικά ...

Acknowledgements

TODO: Add Acknowledgements

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Physical Constants

Speed of Light $c_0 = 2.997\,924\,58 \times 10^8 \text{ m s}^{-1}$ (exact)

List of Symbols

a distance m

ω angular frequency rad

List of Abbreviations

MCU	Micro Controller Unit
MPU	Micro Processor Unit
UAV	Unmanned Aerial Vehicle
VTOL	Vertically Hover, Take-off, and Land
ESC	Electronic Speed Control
IMU	Intertial Measurement Unit
GPS	Global Positioning System
FPV	First Person View
WSN	Wireless Sensor Networks
UGV	Unmanned Ground Vehicle
MAV	Micro Aerial Vehicle

*Dedicated to those people who have helped me be the
person I am today...*

Chapter 1

Introduction

1.1 Motivation

1.2 Scientific Goals and Contributions

TODO

1.3 Thesis Outline

TODO

- Chapter 2 - Theoretical Background:
- Chapter 3 - Related Work:
- Chapter 4 - Design Features and Implementation:
- Chapter 5 - Applications and Usage Examples:
- Chapter 6 - Experiments and Results:
- Chapter 7 - Conclusions and Future Work:

Chapter 2

Theoretical Background

"Let no one ignorant of
geometry enter"

Plato

Chapter 3

Related Work

3.1 Thesis Approach

This should be the last section

Chapter 4

Design Features and Implementation

”

Chapter 5

Applications and Usage Examples

Chapter 6

Experiments and Results

Chapter 7

Conclusions and Future Work

