

DESIGN AND FABRICATION OF A CAMERA CONTROL AND STABILIZATION BASED ON IMU

Nguyen Duc Giang

QH-20010-I/CQ, Electronics and Telecommunications

Abstract

. In this thesis, I want to build up the camera stabilization system. This work needs many experiment and simulation. By programming embedded in microcontroller to read, write and process real time data from sensor IMU and compass sensor also to control the RC servo to do the task stabilization camera. The data collection from IMU and compass sensor will be view in the MATLAB to get the characteristic of the sensor and do some fabrication to have the good result. Combine two values of accelerometer and gyroscope by the complement filter to filter out the noise and get the better angle. This angle is input to control the motor to fix the change of the direction on three axis to hold the stabilization.

Keywords: *Real time embedded system, IMU, camera stabilization.*