

Conception d'un autopilote pour un drone léger type quadri-rotor

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Abstract: This dissertation is divided into two important parts: the first part is dedicated to the establishment of the dynamic quadrotor model to study its stability and control under MATLAB. The second part is reserved for the realization of an autopilot card for the quadrotor that should be compatible with Arduino MEGA development board. This card must be able to acquire and process information from the MPU6050 and GPS sensors in real time, to order and control the quadrotor. The results obtained by the sensors must be displayed on a graphical interface representing the ground station.

Keywords : Quadrotor, autopilot, Arduino MEGA, GPS, MPU6050, ground station, real time, MATLAB.