Sensor Arrays

Autonomous Unmanned Aerial Vehicle Design for Geolocation of Static RF Emitters

In this project, we propose to carry out in-depth research in designing an unmanned aerial vehicle platform capable of performing stable forward motion with fixed yaw rotation. Also, we develop an autonomous flight control system to handle uncertainties and develop a flight control scheme to handle forward and rotations about z-axis. Furthermore, we will design a system to receive antenna power measurements, integrated with GPS time-stamp, location and compass heading. The main objectives of this project are: 1) To investigate and study rotor-craft unmanned aerial vehicle platform to provide stable forward with fixed yaw rate (wave motion). 2) To design and develop the UAV platform. 3) Robust autonomous flight computer to handle uncertainties. 4) Design a digital recording system to receive and store antenna power measurements, integrated with GPS time-stamp, location and compass heading.