

# C.F.F.15 (Controlled Flying Forces) 2015

Abdelkader, Fares

Elmasry, AbdElaziz

This paper discusses a new kind of hybrid drones. Mainly, all drones depend -during their movement- on fluctuation, and those fluctuated movements change the angle of attack which mainly controls the equations of the center of pressure, and the coefficients of drag, lift and induced drag which affects the stability, and changes the speed, leading to a decrease in the accuracy of the mission and consequently increases the margin of error and prevent the hybrid drone from being automated. "C.F.F.15" (controlled flying forces) is a hybrid drone which mainly depends on dispersing the forces around the center of pressure to increase control over the axis with a mechanical design to control all of the motors' angles and an equation to harness the drone to fly its whole flight with zero angle of attack movements to increase the stability and accuracy of the drone, reducing errors by fixing the coefficients and center of pressure. Furthermore, it depends on lift from the flow turning with the dispersing of the wing, decreasing the reference area to obtain less drag for more speed. "C.F.F.15" is a drone which possesses low drag, high speed -to travel from point to another-, high accuracy and more control than the fire-fly6 and google project wing which allows it to be automated having a zero angle of attack flying, with non-fluctuated movements and more stable with severe weather conditions.