DESIGN AND IMPLEMENTATION OF INDEPENDENT PID CONTROLLER AND DECOUPLING METHOD ON LATERAL MOVEMENT OF UNMANNED AERIAL VEHICLE (UAV) FOR WAYPOINT TRACKING

Name : Dimaz Rosyid Ma’ruf NRP : 2209 106 053
Supervisor : Ir. Joko Susila, M.T. NIP : 19660606 199102 1 001

ABSTRACT

For decades Unmanned Aerial Vehicle (UAVs) have been proposed as replacements of human pilots during several mission. In order to accomplish these missions with minimal human intervention, the operation of a UAV should be fully automated, especially at tracking waypoint movement planning control level. A movement planning algorithm then smooths the flight action of UAV from arbitrary point to next desired waypoint. Finally, the tracking waypoint algorithm responsible for guiding UAV to flight to desired waypoint and stay close to its optimal flight path.

Various control approaches in the literature have been proposed to address the tracking waypoint problem. Nowadays the author doing final project research using independent PID controller and decoupling method which mounted into microcontroller and tried with RC aircraft model. With the combination on parameter value of PID controller and decoupling, results UAV implementation can flight through its desired waypoints.

Keyword: Unmanned Aerial Vehicle, Tracking Waypoint, PID Controller, Decoupling Method
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