Quadrotor Modeling and a PID Control Approach

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Abstract

Since there has been an important increase in unmanned vehicles systems research such as quadrotors, a mathematical model and PID control laws are studied. Based on some dynamic variables, PID control is applied to compute a controller to be then use in autopilot simulations. As this kind of VTOL vehicle seems to be unstable, the aim of this work is to change even other flight mechanics parameters and control gains to study attitude and altitude variations. A well-known computational tool is used for simulation purposes, performance analysis and validation.

Keywords