Fast Terminal Sliding Mode Controller For Quadrotor UAV

Authors : Vahid Tabrizi,Reza GHasemi,Ahmadreza Vali

Abstract : This paper presents robust nonlinear control law for a quadrotor UAV using fast terminal sliding mode control. Fast terminal sliding mode idea is used for introducing a nonlinear sliding variable that guarantees the finite time convergence in sliding phase. Then, in reaching phase for removing chattering and producing smooth control signal, continuous approximation idea is used. Simulation results show that the proposed algorithm is robust against parameter uncertainty and has better performance than conventional sliding mode for controlling a quadrotor UAV.