

Abstract :

This paper presents a fully decentralized control strategy for the tracking and the stabilization of an Unmanned Aerial vehicle (UAV) attitude of type Quadrotor, based on the combining of the fuzzy logic control (FLC) and sliding mode control (SMC). The main objective of this work is to reduce the chattering phenomenon (energy consumption) and the needs of materials (construction cost). To achieve our purpose we have decompose the system to many sub-systems and a fuzzy logic controller is used to reduce the chattering in the fully decentralized sliding mode control (FDSMC), Finally the simulation results indicate that the control performance for the system stabilization and tracking are satisfactory and the proposed fully decentralized fuzzy sliding mode control (FDFSMC) can achieve favorable performances.