Cover Letter

Dear Editor,

The paper “Precise Takagi-Sugeno fuzzy logic system for UAV longitudinal stability: an Industry 4.0 case study for aerospace” shows a not common case study for the Industry 4.0 approach being addressed in the aerospace world, which is extremely conservative cause its reluctance to change wanting to warrant the safety aspects of flight.

We show how a "flying wing” architecture of drones allows discharging the FCS from a large computational load typically loaded from the complexity of the longitudinal stability equations (critical for that type of architecture). We used a very reliable simplification due to the fuzzy logic. Our approximate calculation method allows us to have a very "light" calculation effort at the price of a negligible error in terms of the size and dynamics of the vehicle so lowering the inescapable activities of the telecommunication segment that manages the departing and landing maneuvers.

The paper is a product of the studies and discussions within the Electric and the Electronic Measurements Laboratory of "Roma Tre" University with a good experience on drones and their subsystems and the problem faced in the paper is joined to the topics treated in this Special Issue.

The paper is inspired to that presented at MetroIndustry 4.0 titled “Takagi-Sugeno Discrete Fuzzy Modeling: an IoT Controlled ABS for UAV” but it has been completely renewed practically becoming completely new.

With my best Regards

Fabio Leccese