

# **PID And Adaptive Predictive Fuzzy Logic Controller For A Micro-Satellite**

## **Abstract**

In this paper a simple Adaptive Predictive Fuzzy Logic Controller is developed for the attitude control of a micro-satellite; its performance is compared with a PID controller. PID controller is the most widely used among the conventional controllers. The gain of proportional, integral and derivative control has to be tuned and fixed throughout the control simulation. APFLC is introduced in order to reduce the effect of unpredictable time delays and large uncertainties. The design schemes of modeling a APFLC has the following: basic Fuzzy Logic Controller, predictive FLC and adaptive predictive FLC. All the proposed models have been analyzed with the same level of noise and external disturbances. From the simulation results, it is observed that the performance of the proposed APFLC has an edge over the conventional PID controller.