

消除馬達靜摩擦效應之行動通信天線衛星追蹤模糊控制系統設計

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摘要

This research applied the traditional PI (Proportion and Integration) compensator and the fuzzy control methods for mobile antenna tracking system performance analysis. The antenna tracking and the stabilization loops were designed first according to the bandwidth and phase margin requirements, and then the motor static friction effect in the tracking loop was taken into consideration. On the other hand the fuzzy controller design method was also applied to solve the same problem for comparisons. It can be seen that the system performance obtained by the fuzzy controller was better, especially in eliminating the static friction effects and the transient responses.

關鍵字：PI Compensator, Fuzzy Control, Motor Static Friction, Satellite Tracking Control