Automated of 74-inch Kottamia Telescope Dome based on Fuzzy Logic Due to Online Weather Station Data

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Abstract

An overview of automated astronomical facilities (especially in Egypt) is presented. Control of motors speed used to open and close the dome and mirror shutters due to weather station data. The fuzzy logic control introduced as a new control system for the Kottamia astronomical dome’s shutters and mirror’s shutter due to weather station data. The real operating of Kottamia dome and mirror shutters have been studied to kipping its operation in good performance with weather changes. The weather station data transfer to the fuzzy control system simultaneously. Fuzzy system used to control the opening or closed operation of the dome’s shutters and mirror’s shutter due to the online homogenous environmental weather station data. In this paper, wind speed, humidity, rain rate, and dust particle are used as an input parameter occurs and the top shutter, bottom shatter and mirror shutter are used as an output parameters reaction.

References

Index Terms

Computer Science Fuzzy Systems

Keywords

Fuzzy control systems, Kottamia Astronomical telescope, weather station, DC motor.