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Amateur Public Observatory I: The Observatory and Hardware Integration System

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Abstract

Public observatory is playing more and more important role in astronomy education, citizen science and scientific research. It is developing rapidly and has made some progress though a variety of approaches. As relative small number and high operating costs of professional observatories, it leads that only just a few students benefit. As a result, amateur astronomers begin to build their own remote observatories, but they also face great challenge, especially in hardware technology experience and construction funds. Their self-designed hardware connection and control system often breaks down, and then a stable hardware integration system becomes very critical. According to requirement investigation to dozens of the amateur, we propose an amateur public observatory model, and a hardware integration system as a bridge between observatory equipment and observation software. It not only can satisfy hardware requirement for multiple control modes, but also saves cost. It has great significance in promoting citizen science and astronomy education.

Keywords: Amateur public observatory, System integration, Citizen science, Astronomy education, Robotic telescope

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