

DEVELOPMENT OF TELESCOPE ARRAY ATMOSPHERIC MONITORING SYSTEM AT AKENO OBSERVATORY

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We have developed an atmospheric monitoring system for Telescope Array experiment at akeno observatory. It consists of Nd:YAG laser with alt-azimuth shooting system and the small receiver. This system is installed in the weather proof dorm with air conditioner. All parts, the dorm, laser, shooter, receiver and optical devices are fully controlled by PC with Linux Operating System. It is now operated as a backscattering lidar system. For Telescope Array experiment, to estimate energy reliably, and to obtain the shower development profile correctly, we need to calibrate the light transmittance in the atmosphere with high accuracy. Based on the observational results with this monitoring system, we will discuss atmospheric monitor technique for Telescope Array experiment.