ABSOLUTE CALIBRATION OF EXTENDED EMISSION OBJECTS BRIGHTNESS BY STARS

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The method of calibration of extensive emission objects brightness by stars is described. This method allows taking into account the star's characteristics, absorption of light in the atmosphere, a spectral sensitivity of recording system.

The problem of calibration of extended emission objects brightness (auroras, solar corona, artificial formations in the upper atmosphere etc.) against point sources of radiation (stars) is reduced to finding of conformity between a radiation flux of reference stars and brightness of an extended source in view of their position on a celestial orb, absorption of light in the atmosphere and the recording system characteristics.

The method of absolute calibration for reference stars has been used in astronomical research however, a procedure of such calibration until recently was rather labour-consuming and is burdened by significant errors. The application of modern recording systems possessing large dynamic range (more than 17 bits) in conjunction with computer image processing allows to simplify process of such calibration considerably and to increase essentially it accuracy.