

The ways to reach optimal sensitivity of spectrograph with IPenta-Max CCD camera

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For the auroral optical spectrum measurement we have used the CCD camera “IPentaMax” of the Princeton Instruments Inc. with inbuilt microchannel image intensifier. Due to low intensity of the auroral luminosity the useful signal of the camera is obscured by noise. Statistical signal/noise parameters measurements of the CCD as well as the CCD + image intensifier dark current are presented and discussed. Signal/noise ratio improvement is proposed on the basis of possibility to registered two dimension spectral pattern with shift of free spectral interval. The final resolution of the camera is discussed and samples of auroral spectra are demonstrated.