

Preliminary Performance Results for FIMS detector

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We present the preliminary performance results for FIMS (Far-ultraviolet Imaging Spectrograph) detection system which is under development. We have checked for the overall performance of our preliminary detection system including the spectral and imaging resolution, pulse height distribution, and pattern and electronic noise. Detector for FIMS is composed of MCP and its readout anode. The choice of detector and anode strongly depend on the design specification of optical system. We have adopted Z-stack MCP as a detector in order to get a high gain (107 minimum) and a double delay line readout technique as an anode in order to get a high resolution. For the case of double delay line system, a charge ratio of each electrode and a time difference of delayed signal contain 2-dimensional position information. Our goal of the detection system is for the position resolution to achieve less than 35 μm FWHM for the spectrographic axis and less than 75 μm FWHM for the imaging axis.