

Progress Report of FIMS XDL System

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Currently microchannel plate detector with delay line anode readout is used in many space missions, as COS, FUSE, GALEX, FUV etc., especially in UV missions with stringent resolutional requirement. Delay line readout system exhibits superior spatial resolution ($\sim 50\mu\text{m}$) than other readout systems previously used and can be classified into single(SDL), double(DDL), and cross delay line(XDL) system. XDL system is the latest and exhibits the best performance but due to expensiveness it is not widely used in small satellite missions, yet. We have designed new via type XDL anode which is much simpler and less expensive than previous XDL anodes. We have already analyzed and checked for the characteristics of double delay line readout system, and this report reviews the current design of mechanical structure of our new XDL detection system and conceptual design of via type XDL readout system. It includes the detailed technique to enhance the performance by reducing intrinsic DNL of the anode.