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Micromegas Tracker for the CLAS12 experiment and for a future EIC

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The CLAS12 experiment at Jefferson Lab will soon begin using a Micromegas Vertex Tracker (MVT) in its central tracking system. The MVT is composed of 6 cylindrical layers and 6 flat disks of resistive bulk detector Micromegas. The detectors have been designed to withstand the high particle flux environment and the high magnetic field using a low material budget of less than 0.5% of a radiation length per detector. The MVT is read out using front-end electronics based on the DREAM ASIC developed at IRFU. The low material budget requirements and very stringent space restrictions of the central tracking system surrounded by a 5T solenoid prevent the use of on-detector frontend electronics. The ability of the DREAM chip to work with high-capacitance detectors allows deploying the electronics some 2 m away using flat micro-coaxial cables. A full description of the detector system, the production of the detectors, and the readout electronics will be given in this talk. Possible future developments towards an EIC detector will be presented.

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