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Integration of MIMOSA26 sensors into a FEI4 planar sensor telescope

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An integration of MIMOSA26 pixel modules[1] into a FEI4 telescope system[2] will be reported. The FEI4 telescope system has been running successfully for CMOS pixel sensors characterization for ATLAS Phase II ITK upgrade. The MIMOSA26 pixel modules, with much smaller sensor size compared to FEI4 planar sensor, are aimed to improve the spatial resolution of the telescope system, by at least a factor of two from simulation study. Integration of MIMOSA readout into the telescope readout will be presented, including some preliminary test results. Future integration of MIMOSA and FEI4 readout into FELIX[3] will also be presented.

[1] J. Baudot et al., "First test results Of MIMOSA-26, a fast CMOS sensor with integrated zero suppression and digitized output," 2009 IEEE Nuclear Science Symposium Conference Record (NSS/MIC), Orlando, FL, 2009, pp. 1169-1173.

[2] M. Benoit et al., "The FE-I4 telescope for particle tracking in testbeam experiments", JINST 11 (2016) no.07, P07003

[3] ATLAS Collaboration, "FELIX - the new detector readout system for the ATLAS experiment", ATL-DAQ-SLIDE-2016-374

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