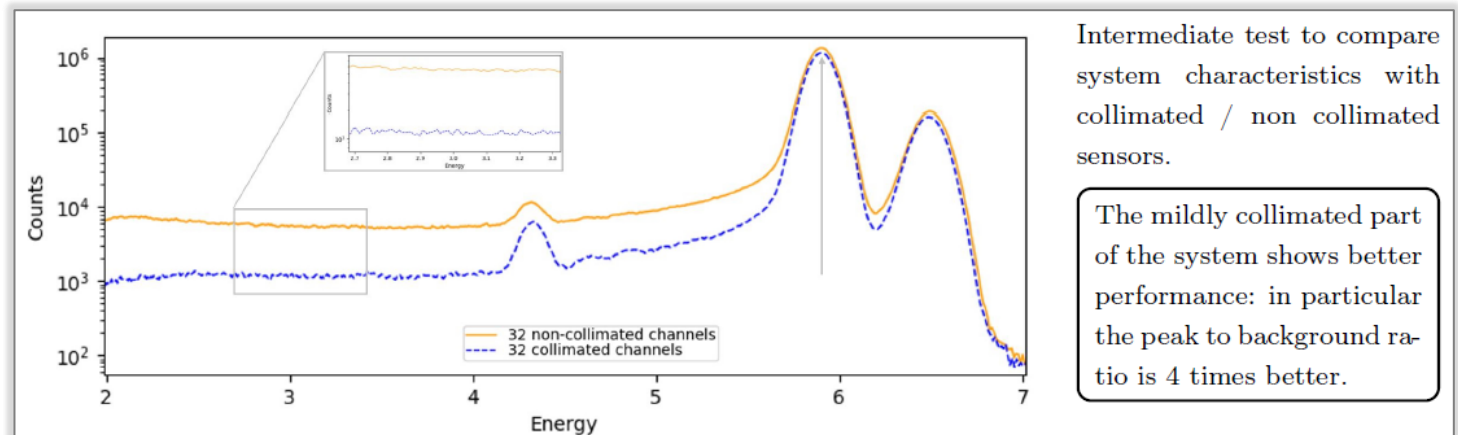
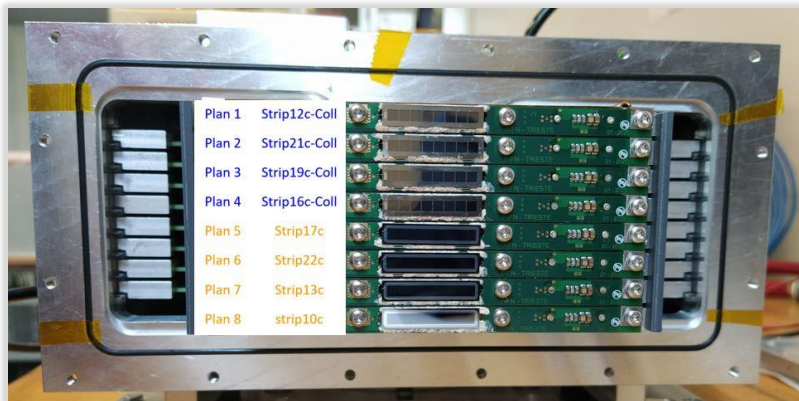
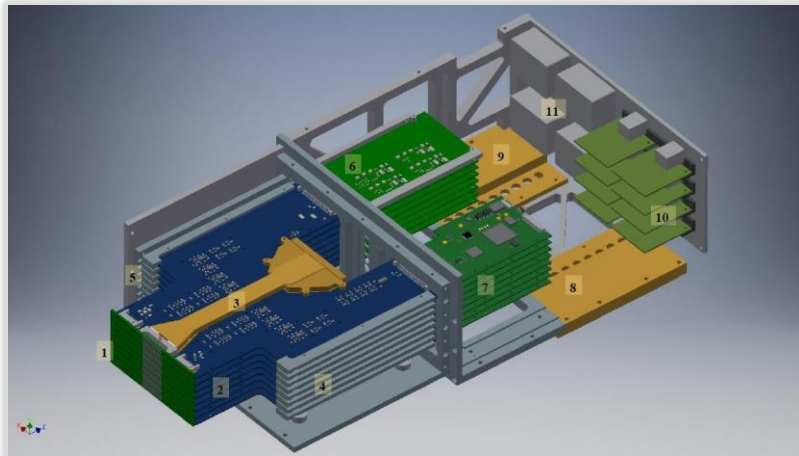


A new collimated multichannel modular detection system based on Silicon Drift Detectors

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Intermediate test to compare system characteristics with collimated / non collimated sensors.

The mildly collimated part of the system shows better performance: in particular the peak to background ratio is 4 times better.

	32 collimated channels	32 non-collimated channels
Part of the detector system	top	bottom
Average temperature of the sensors	23 °C	23 °C
FWHM at the Mn 5.9 K α line	174 eV	178 eV
Best channel - FWHM	159 eV	166 eV
Worst channel - FWHM	199 eV	211 eV
Acquisition time	30 min	30 min
Counts	23,01 M	29,79 M
Peak to background ratio	972	243

After this test, the remaining sensors were collimated and the entire system was optimized, highlighting the improvement in performance.