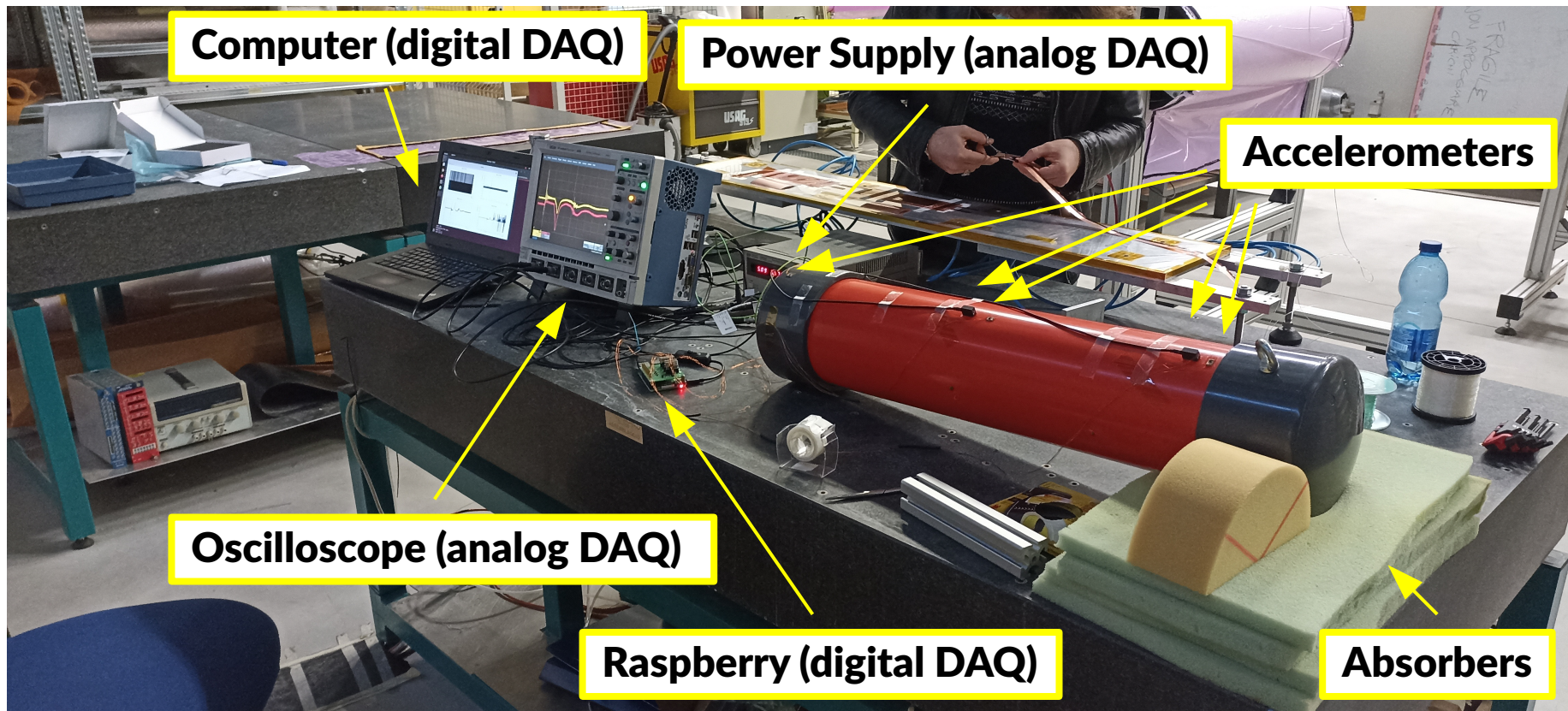
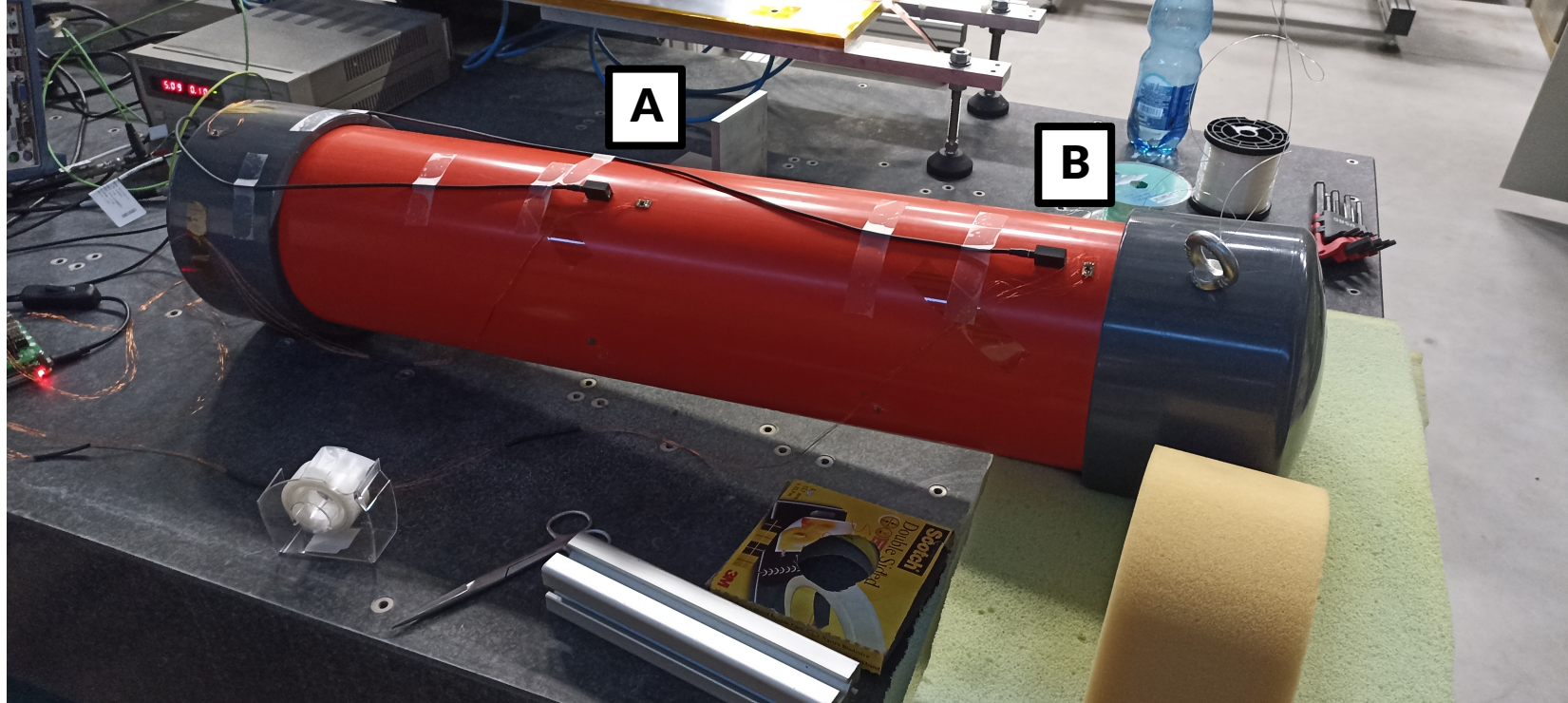


Accelerometers Repeatability Test and Comparison between Digital and Analog DAQ

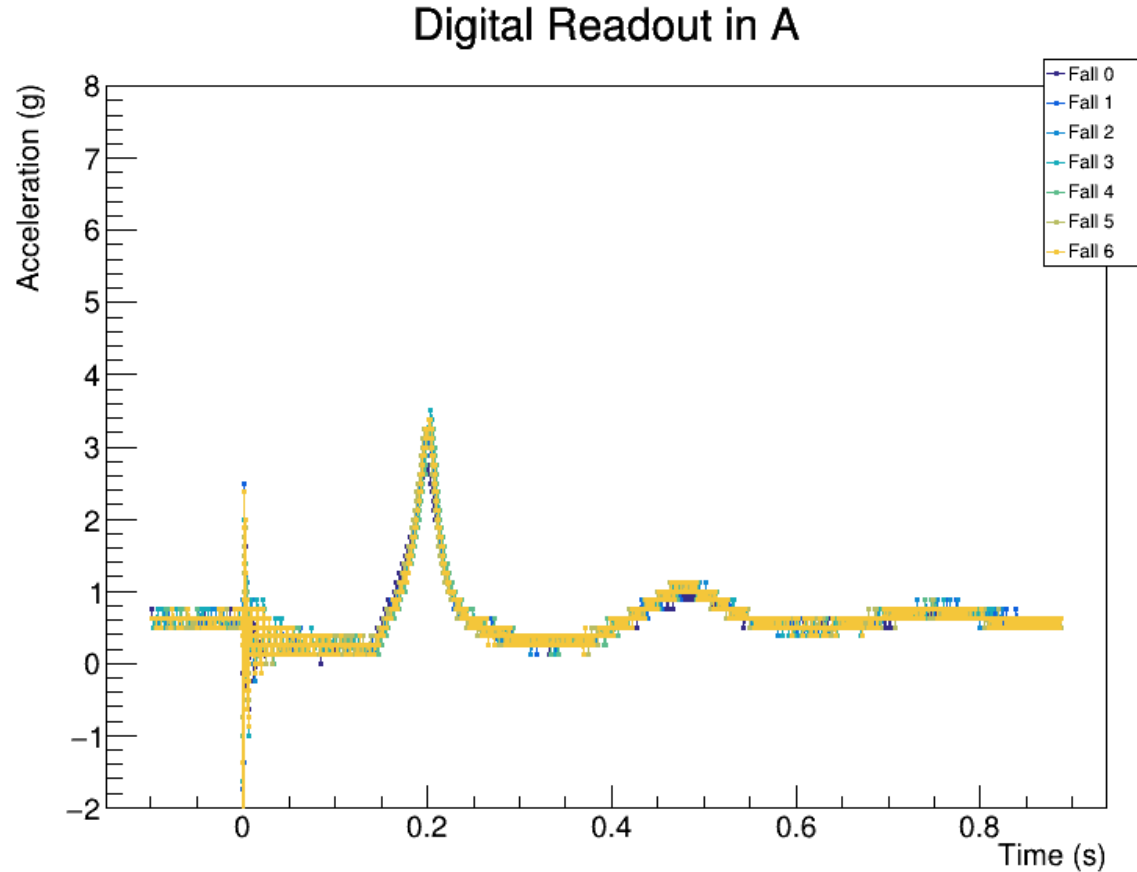
Experimental Setup



Measurement points

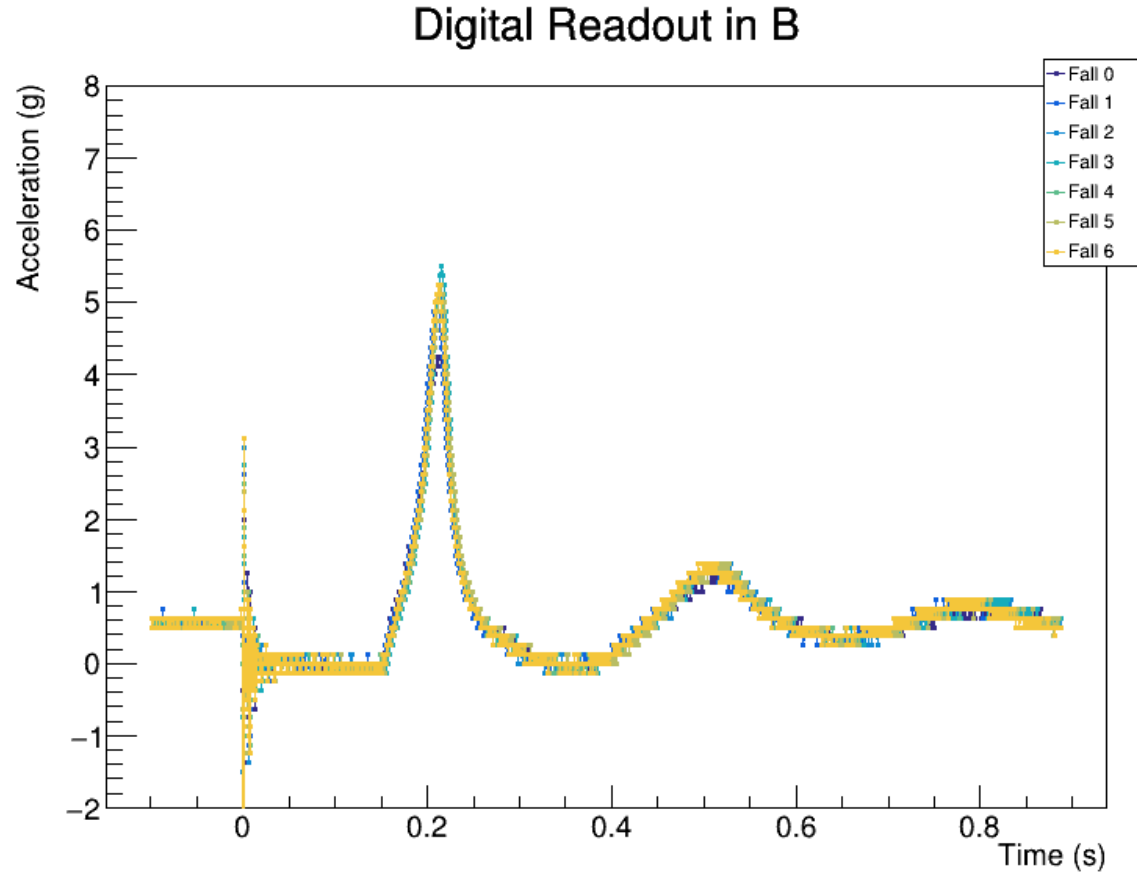


Repeatability Test – Digital Readout in A



Fall	Peak (g)
Fall 0	2.75
Fall 1	3.25
Fall 2	3.38
Fall 3	3.50
Fall 4	3.38
Fall 5	3.25
Fall 6	3.38
Mean	3.27
StDev	0.23

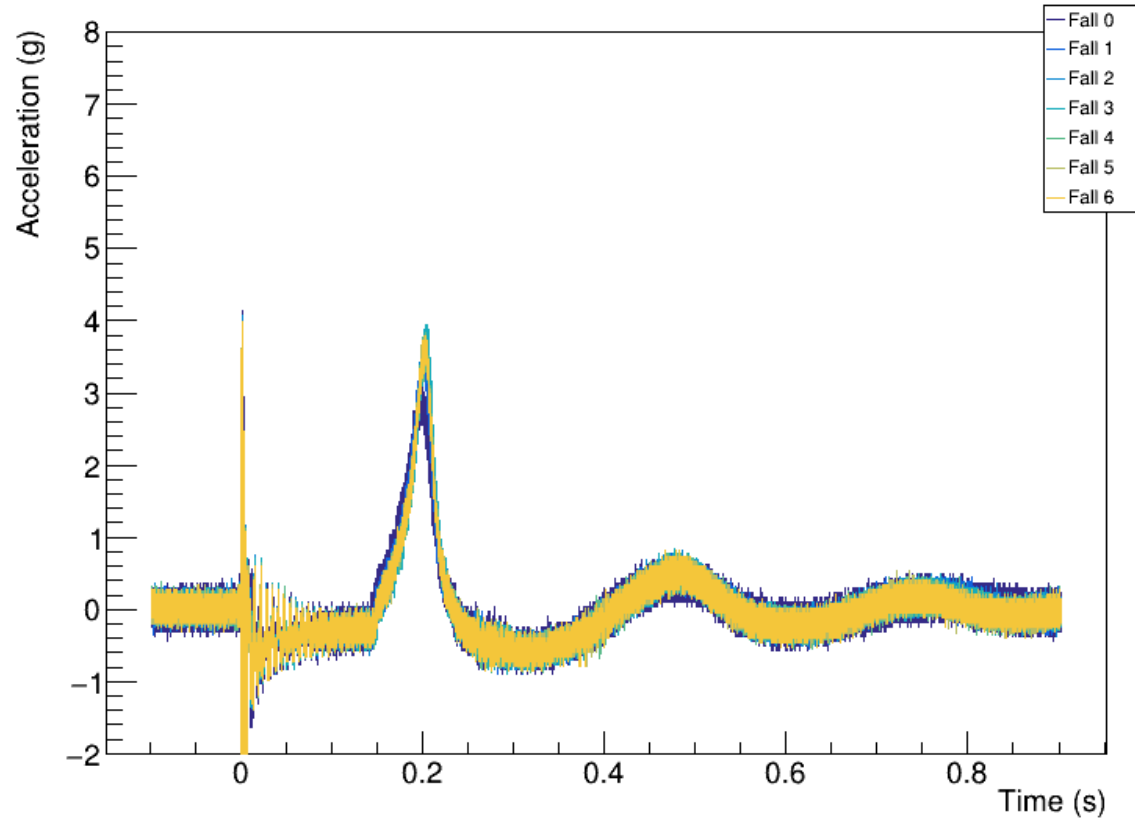
Repeatability Test – Digital Readout in B



Fall	Peak (g)
Fall 0	4.25
Fall 1	5.00
Fall 2	5.25
Fall 3	5.50
Fall 4	5.25
Fall 5	5.25
Fall 6	5.25
Mean	5.11
StDev	0.38

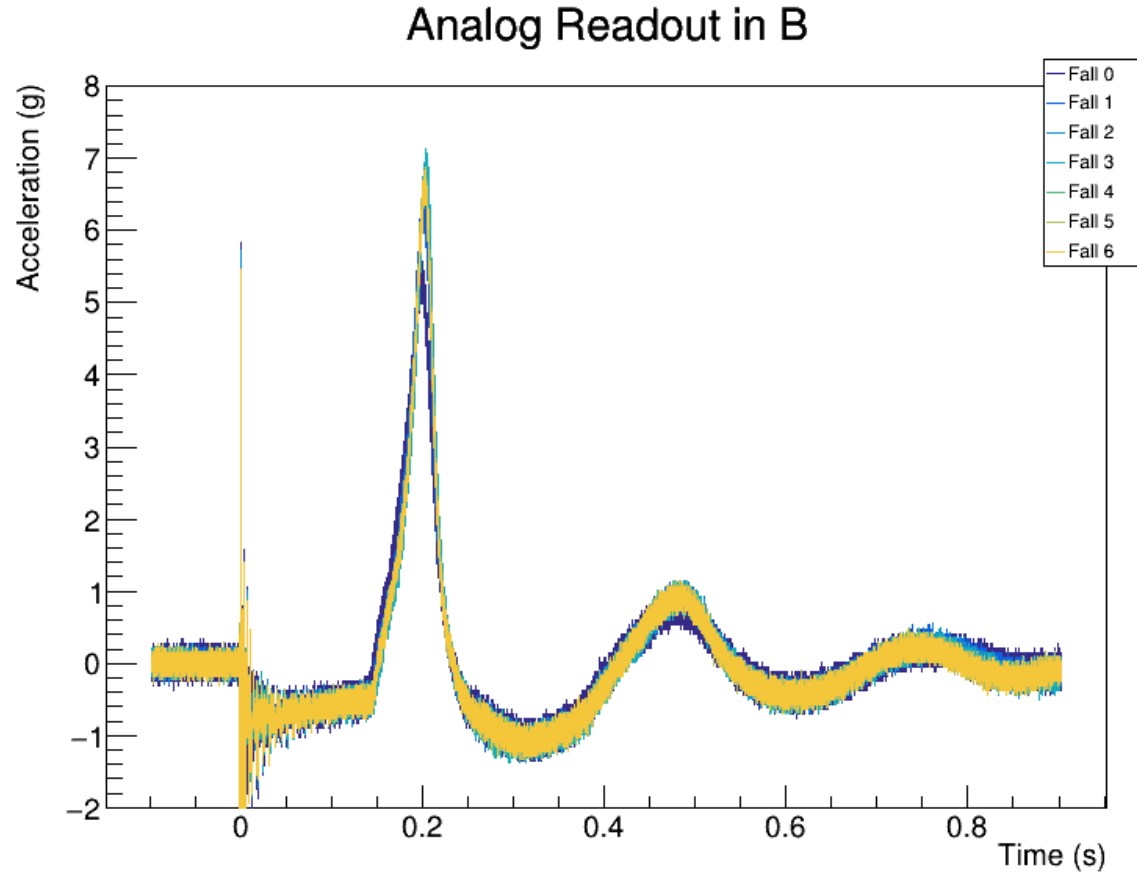
Repeatability Test – Analog Readout in A

Analog Readout in A



Fall	Peak (g)
Fall 0	3.22
Fall 1	3.76
Fall 2	3.88
Fall 3	3.95
Fall 4	3.83
Fall 5	3.79
Fall 6	3.80
Mean	3.75
StDev	0.23

Repeatability Test – Analog Readout in B



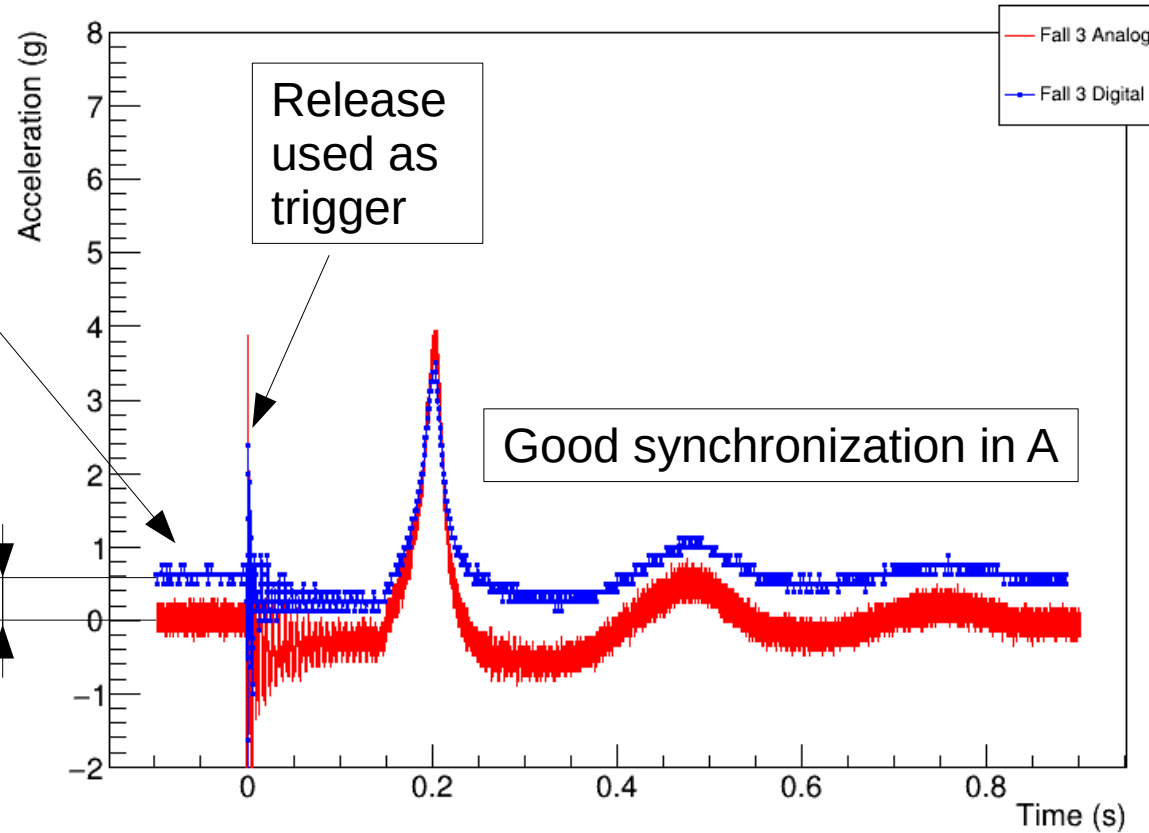
Fall	Peak (g)
Fall 0	5.57
Fall 1	6.55
Fall 2	6.76
Fall 3	7.13
Fall 4	6.77
Fall 5	6.84
Fall 6	6.88
Mean	6.64
StDev	0.47

Analog VS Digital Readout Comparison

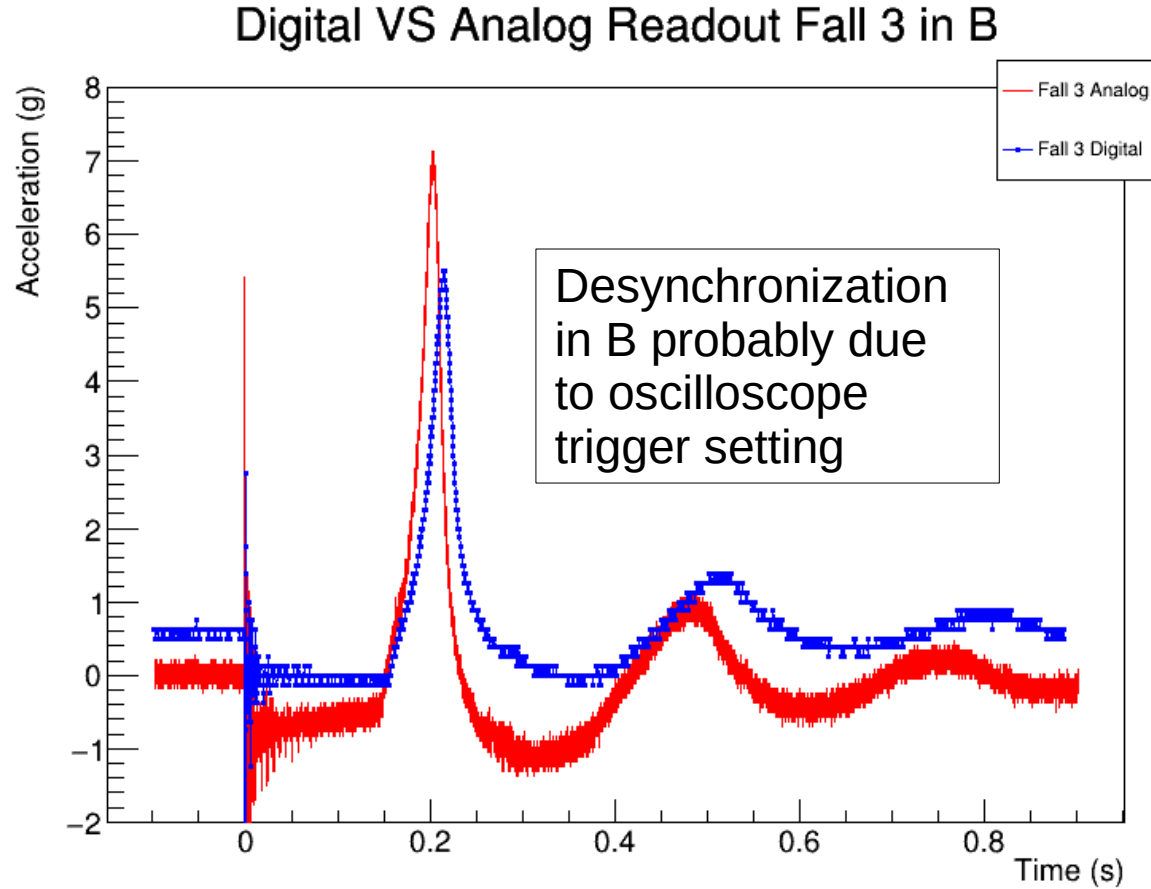
Digital VS Analog Readout Fall 3 in A

The digital accelerometers do not measure exactly 1 g at rest

Piezoelectric accelerometers Cannot measure accelerations at 0 Hz

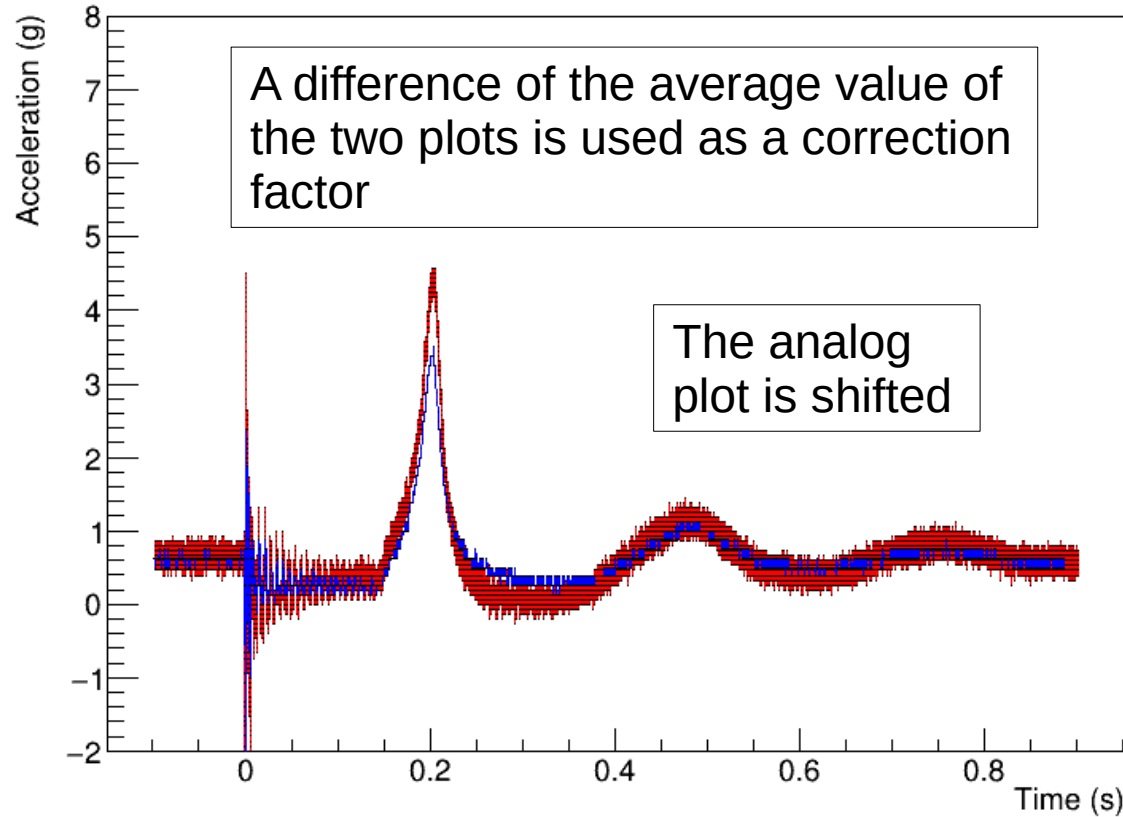


Analog VS Digital Readout Comparison



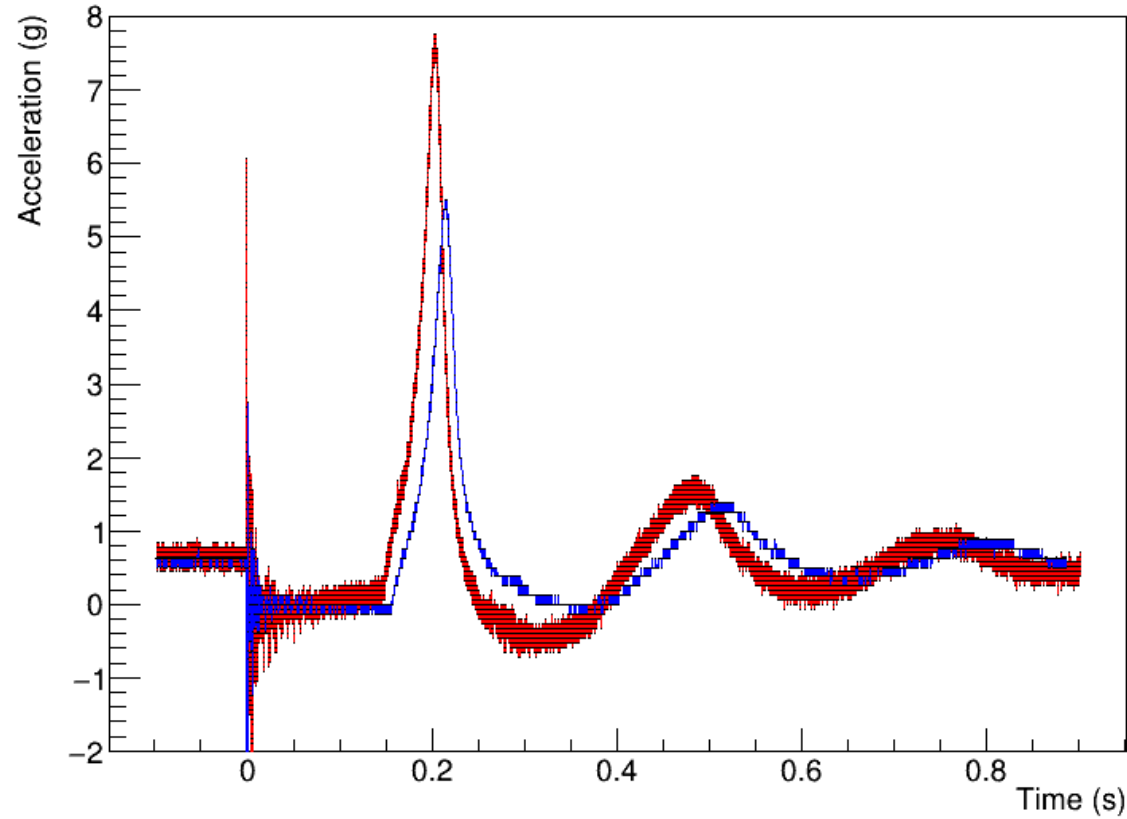
Analog VS Digital Readout Comparison – Correction

Digital VS Analog Readout Fall 3 in A



Analog VS Digital Readout Comparison – Correction

Digital VS Analog Readout Fall 3 in B



Analog VS Digital Readout Comparison – Summary Table

	A					B				
Fall	Digital	Analog	Delta	Shift	Delta w/ shift	Digital	Analog	Delta	Shift	Delta w/ shift
Fall 0	2.75	3.22	0.47	0.61	1.08	4.25	5.57	1.32	0.61	1.93
Fall 1	3.25	3.76	0.51	0.62	1.13	5.00	6.55	1.55	0.60	2.15
Fall 2	3.38	3.88	0.50	0.62	1.12	5.25	6.76	1.51	0.63	2.14
Fall 3	3.50	3.95	0.45	0.62	1.07	5.50	7.13	1.63	0.64	2.27
Fall 4	3.38	3.83	0.45	0.63	1.08	5.25	6.77	1.52	0.62	2.14
Fall 5	3.25	3.79	0.54	0.62	1.16	5.25	6.84	1.59	0.62	2.21
Fall 6	3.38	3.80	0.42	0.62	1.04	5.25	6.88	1.63	0.63	2.26
Mean	3.27	3.75	0.48	0.62	1.10	5.11	6.64	1.54	0.62	2.16
StDev	0.23	0.23	0.04	0.01	0.04	0.38	0.47	0.11	0.01	0.11