

<i>Script Name</i>	<i>Subsystem</i>	<i>Purpose</i>	<i>Output</i>	<i>Test Technique</i>
acdSingleChannelCI	ACD	Waveform Scan	html test report, root file	<ul style="list-style-type: none"> <li>• Enable all channels for charge injection</li> <li>• Configure trigger as Calstrobe + TACK</li> <li>• Loop over hold_delay settings, taking events at each setting</li> <li>• Histogram and fit PHA value for each channel seperately.</li> </ul> <p><b>Note:</b> trgseq has to be set to 39 or higher (set to 40 in the script).</p>
acdSingleChannelCondArr	ACD	Test timing uniformity among channels.	html test report, root file	<ul style="list-style-type: none"> <li>• Loop over single channels</li> <li>• Enable veto trigger</li> <li>• Issue calstrobe on solicited triggers</li> <li>• Receive ROI trigger from enabled channel</li> <li>• Histogram and fit delta window open time</li> <li>• Cross-check GEM hitmap entry against expected value.</li> </ul>
aemHitmapScan	ACD	Measure roundtrip time for ACD hitmap, verify functioning of hitmap parameters.	Online plots only.	<ul style="list-style-type: none"> <li>• Enable veto trigger on a single channel</li> <li>• Configure hitmap_width, hitmap_deadtime, etc.</li> <li>• Loop over hitmap_delay settings</li> <li>• Inject charge</li> <li>• Plot AEM hitmap bit for this channel vs. hitmap_delay.</li> </ul>

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calSingleChannelCI	CAL	Waveform Scan	html report, root file	<ul style="list-style-type: none"> <li>• Enable all channels for charge injection</li> <li>• Configure trigger as calstrobe + TACK</li> <li>• Loop over cal_trgseq settings</li> <li>• Take events at each setting</li> <li>• Histogram and fit ADC value at each point.</li> <li>• Multi tower script</li> </ul>
calSingleChannelCondArr	CAL	Test timing uniformity among channels	html report, root file	<ul style="list-style-type: none"> <li>• Loop over single channels</li> <li>• Enable CAL low/high trigger</li> <li>• Issue calstrobe on solicited triggers</li> <li>• Receive CAL trigger from enabled channel</li> <li>• Histogram and fit delta window open time for each channel</li> <li>• Single tower script</li> </ul>
simpleTimeInDiag_r	CAL, TKR	Time in diagnostic data	Online plots only	<ul style="list-style-type: none"> <li>• Enable one channel for charge injection</li> <li>• Configure the various timing parameters through a GUI</li> <li>• Loop over “shaping” field of the RC</li> <li>• Inject charge</li> <li>• Histogram and fit diagnostic bit for the channel vs. shape parameter</li> </ul> <p><b>Note:</b> The script is meant for development purposes only. It can only be run by an expert at this</p>

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				point.
triggerTimeIn_new	All	Determine TREQ delay to line up trigger primitives from the various subsystems.	xml file(s) to be read in with the schema, root file, html test report	<ul style="list-style-type: none"> <li>• Pick one trigger source as the reference trigger line</li> <li>• Enable one or more lines to be timed in</li> <li>• Acquire cosmic data</li> <li>• Histogram and fit conditions arrival time for each timed in subsystem</li> <li>• Single tower script</li> </ul>
multiTowerTimeInSuite (includes the following scripts: acdpeds, calpeds, takedata_mt)	All	Determine optimal TACK delay settings	xml file(s) to be read in with the schema, root file, html test report	<ul style="list-style-type: none"> <li>• Issue solicited triggers to measure pedestals for ACD and CAL if those subsystems were selected</li> <li>• Step through TEM cal_trgseq and tkr_trgseq, AEM trgseq, acquire cosmic data</li> <li>• Histogram and fit ADC values per channel for CAL and ACD. Record mean layer hit efficiency for TKR</li> <li>• From the results of the cosmic runs at different TACK values, graph and fit waveforms for ACD and CAL, efficiency curve for TKR. Fit for the maximum for each subsystem.</li> <li>• Multitower script</li> </ul>

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triggerdata	All	Acquire data	online plots	<ul style="list-style-type: none"> <li>• Use GUI to configure the trigger</li> <li>• Acquire data</li> <li>• Multitower script</li> </ul>
treqSuite	All	Run triggerTimeIn_new and calSingleChannelCondArr as a suite	None	
tackSuite	All	Run multTowerTimeInSuite without the GUI	None	
effSuite	All	Run triggerdata with two different window sizes.	None	