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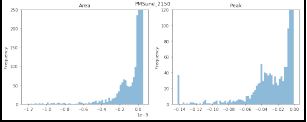
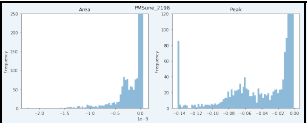
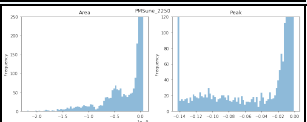
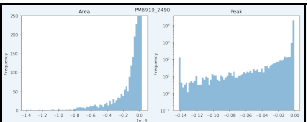
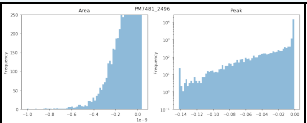
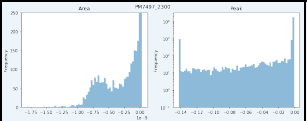
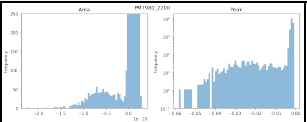
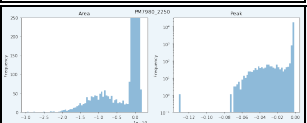
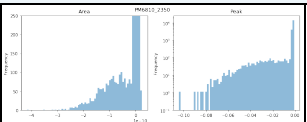
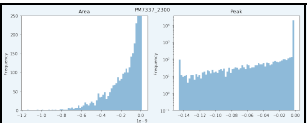
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# Code

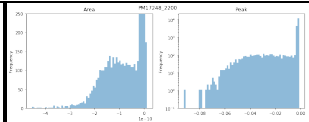
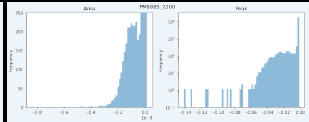
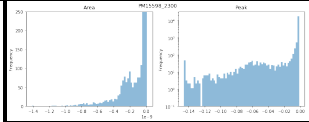
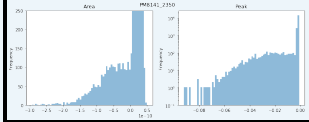
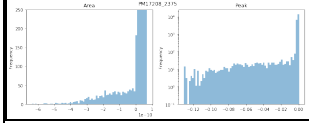
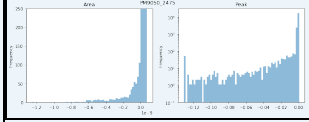
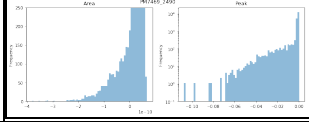
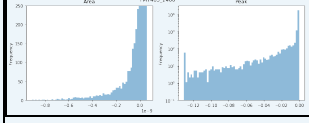

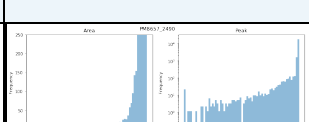
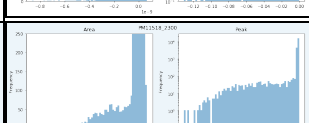
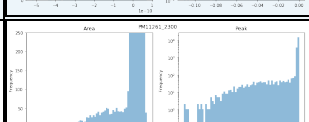
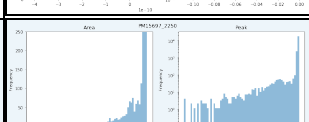
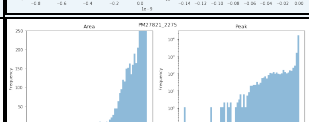
All the code performing the data analysis can be found on the daquser account. The code was written in jupyter under SWAN (swan.cern.ch) using cernbox as the storage. All files were placed under the swan directory: `~/labdata/2018/lab11/PMTs/`, in particular note the jupyter notebook called `ProduceHistos.ipynb` (Also the file `ParseRaw.ipynb` or the python version of this same file `ParseRaw.py`). The cernbox space corresponds to an eos mounted space which can easily be accessed from lxplus. The cernbox/swan home directory corresponds to the path: `/eos/user/d/daquser`. Consequently, the directory above can be accessed through: `/eos/user/d/daquser/labdata/2018/lab11/PMTs/` and the jupyter notebook at `/eos/user/d/daquser/labdata/2018/lab11/PMTs/ProduceHistos.ipynb`. However, it is best to access the jupyter notebooks through SWAN or CERNBOX in order to adequately see the contents.

# Measurements

Measurements of the Single Electron Response (SER) of the photomultipliers. For a full list of the available photomultipliers, see PhotomultiplierInventory2018.

ID	LED	HV	Timebase	Scale	Int Min	Int Max	Result	Comments
Sune	1.470	2150	10 ns/div	20 mV/div	2	7		
	1.470	2198	10 ns/div	20 mV/div	2	7		
	1.470	2250	10 ns/div	20 mV/div	2	7		
8919	1.445	2490	10 ns/div	20 mV/div	3.5	7		No separation
7481	1.435	2496	10 ns/div	20 mV/div	3.5	8		No separation
7497	1.420	2300	10 ns/div	20 mV/div	4	8		<p>Weird results:</p> <ul style="list-style-type: none"> <li>• We do see a peak moving with the HV, but there is some kind of underlying structure. What is it?</li> <li>• The larger pulses also seem to always come accompanied by a second smaller pulse.</li> </ul>
7980	1.420	2200	10 ns/div	20 mV/div	1.5	5		Best separation so far in our photomultipliers
	1.420	2250	10 ns/div	20 mV/div	1	4		
6810	1.390	2350	10 ns/div	20 mV/div	1.5	5		Not the best separation and operating close to maximum voltage
7337	1.420	2300	10 ns/div	20 mV/div	5	7.5		Similar to PM 7497

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17248	1.420	2200	10 ns/div	20 mV/div	2	5.5		OK
8885	1.420	2200	10 ns/div	20 mV/div	4.5	9		Peak was broad and not well defined
15598	1.480	2300	10 ns/div	20 mV/div	4	8		Comment
8141	1.430	2350	10 ns/div	20 mV/div	2	7		Comment
17208	1.530	2375	10 ns/div	20 mV/div	2	7		Separation practically missing
9050	1.430	2475	10 ns/div	20 mV/div	2	7		Separation practically missing
7469	1.430	2490	10 ns/div	20 mV/div	2	7		Separation practically missing
7405	1.470	2400	10 ns/div	20 mV/div	3	7		<ul style="list-style-type: none"> <li>• Separation practically missing, maybe to be redone at higher voltage</li> <li>• With repeat measurement, it seems to discharge</li> </ul>
8657	1.480	2490	10 ns/div	20 mV/div	2.5	7		
11518	1.680	2300	10 ns/div	20 mV/div	3.5	8		
11261	1.600	2300	10 ns/div	20 mV/div	3.5	8		
15697	1.500	2250	10 ns/div	20 mV/div	2.5	6		
27821	1.460	2275	10 ns/div	20 mV/div	1	5.5		
	1.460	2300	10 ns/div	20 mV/div	1	5.5		

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6094	1.380	1625	10 ns/div	20 mV/div				
6094	1.380	1650	10 ns/div	20 mV/div				

-- CristovaoDaCruzESilva - 2018-07-31

This topic: BL4S > PhotomultiplierSER

Topic revision: r15 - 2018-07-31 - CristovaoDaCruzESilva



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