Test DAQ data sample/2014/1/16

Thursday, January 16, 2014   11:46 AM

Test Data Sample:

sst_s01_phy01102634_dbg.sfs sst_s02_phy01102634_dbg.sfs
sst_s01_phy01102635_dbg.sfs sst_s02_phy01102635_dbg.sfs
Data name include "S01" and "S02" is coming from different computer,(maybe different Run)
 "phy01102634" and "phy01102635" is coming from different Run(maybe different computer).

Questions

1>how many RDO used to create those data ?

Errors and comments list

1>data coming from computer 1 and computer 2 have different event at the same Run number.

sst_s01_phy01102635_dbg.sfs---->300 events

```
********************Process Event 300 Done!********************
INFO:READE DONE, LET'S WRITE HISTOGRAM!!!
start write histogram
Done!
```

sst_s02_phy01102635_dbg.sfs---->200 events

```
********************Process Event 200 Done!********************
INFO:READE DONE, LET'S WRITE HISTOGRAM!!!
start write histogram
Done!
```

sst_s02_phy01102634_dbg.sfs---->200Events

```
********************Process Event 200 Done!********************
INFO:READE DONE, LET'S WRITE HISTOGRAM!!!
start write histogram
Done!
```

sst_s01_phy01102634_dbg.sfs------>300Events
This file have error, but we also can find out how many event stay in this file.

```
[rcas6008] ~/<1>DEV14/SST/offline_12_19/Data/> grep -ri "aaaaaaaa" sst_s01_phy01102634_dbg.txt | wc -l
300
[rcas6008] ~/<1>DEV14/SST/offline_12_19/Data/> █
```

It's seems I am misunderstand those file name .sorry ······
2>this file "sst_s01_phy01102634_dbg.sfs" have some problems.

A)Event 196, Fiber 5(start at 0),the ADC length is less than Fiber Header record.

```
********************Process Event 195 Done!********************
```

STAR Handle Event 196

```
INFO:-----------------Decoding Fiber[5]--------------------
INFO:Current mode is 0
INFO:Current Adc length is m_adclength = 4106
INFO:Fiber Token ok
Decode Raw Data, Adc Length = 4106
INFO:PROCESSING 0%
INFO:PROCESSING 24.4141%
INFO:PROCESSING 48.8281%
INFO:PROCESSING 73.2422%
INFO:PROCESSING 97.6562%
INFO:DecodeHitsData,Good to go
INFO:Current m = 6432733; Current adc_Length = 4106
INFO:-----------------Decoding Fiber[6]--------------------
ERROR:Bad FIBER LINK TOKEN, Stop!

This is the end of ROOT -- Goodbye
```

We can see that, The Fiber Link Token in fiber6 is not right, but I checked that's event. The Fiber Link Token in Fiber6 is 0xDDDDDDDD, of course ,that's token is right. so I suspect the ADC length is not right in Fiber 5.

Fiber5, Event 196:
Record

```
PS C:\SSD\test> root -l
root [0] .L Mid.c
root [1] Mid(4,20,0x000100a0)
4106
root [2]
```

Data:Fiber6 Header(position)-Fiber5 Header(position) = 4105.
It's seems in our data ,we lose one strip info in Fiber5. But I do not know which strip's info was lost.

B)I also checked the Flags at Fiber Header(all the data) ,it's 0, but we do not have this kind of flag !
Data

```
0
root [7] Mid(20,32,0x000100a0)
0
root [8]
```
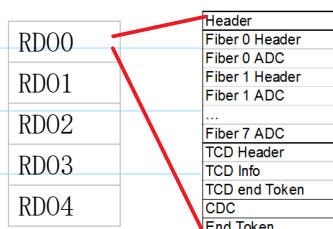
Definition

For all fibers (ladder cards) the following is repeated				
N+0	Fiber link Token	Constant 0xDDDDDDDD		
N+1	Fiber ID	Bit 3 - 0: Pipe mode (RAW=0x0, COMPRESSED=0x1)		
		Bit 19 – 4 : Size-1 of the ADC data including header; limited to 4105		
		Bit 31 – 20 : Flags (No data=0x001, Overflow=0x002, Earlyabort=0x003, Wrong pipe m		

3>The RDO number in all event is a constant value. Please look at the following histogram.

4>in the DAQ data, each event, what's the each RDO data store order?

RDO0	Header	
	Fiber 0 Header	
	Fiber 0 ADC	
RDO1	Fiber 1 Header	
	Fiber 1 ADC	
RDO2	...	
	Fiber 7 ADC	
RDO3	TCD Header	
	TCD Info	
	TCD end Token	
RDO4	CDC	
	End Token	

I do not know is that right ?
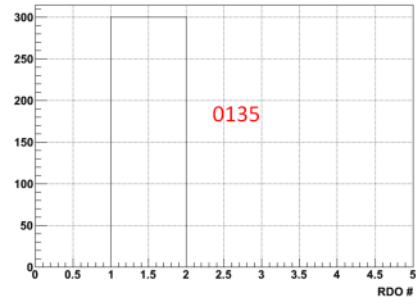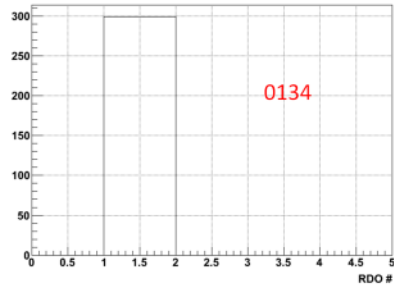
QA Histogram

QA plots

Long Zhou

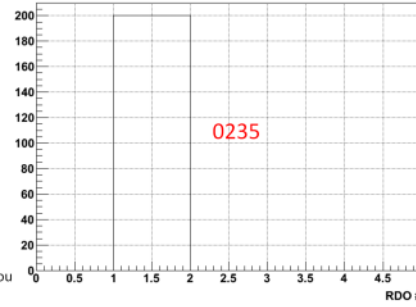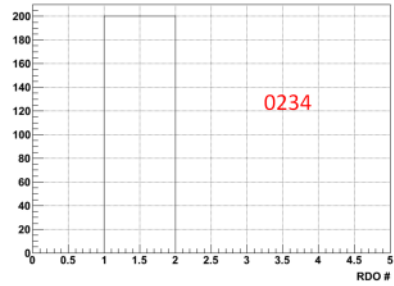2014-1-16

Abbreviation list

- 0134   sst_s01_phy01102634_dbg.sfs
- 0135   sst_s01_phy01102635_dbg.sfs
- 0234   sst_s02_phy01102634_dbg.sfs
- 0235   sst_s02_phy01102635_dbg.sfs

RDO Number

0134

0135

0234

1/16/20:

0235
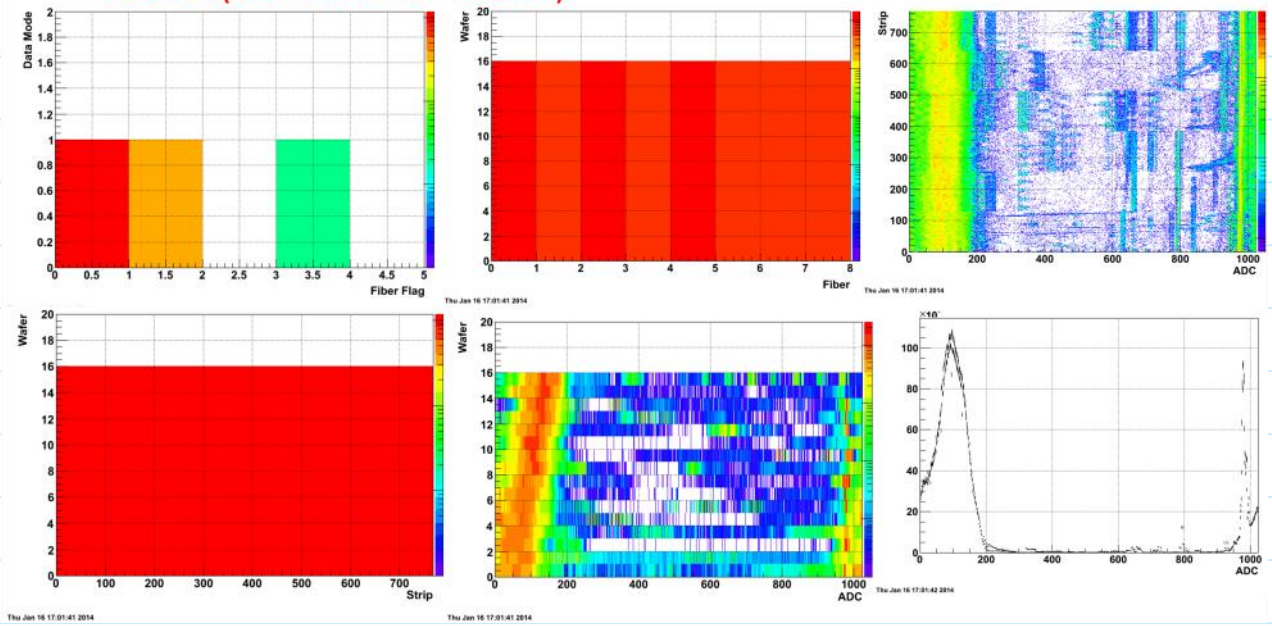
Long Zhou

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0134(300 RDO data)
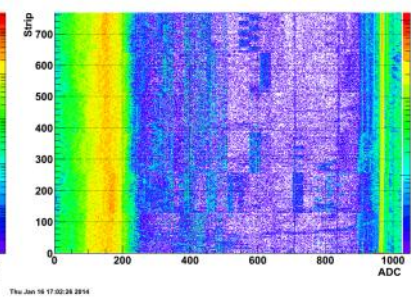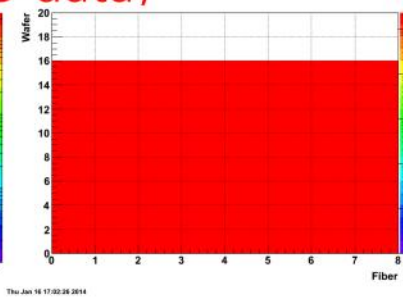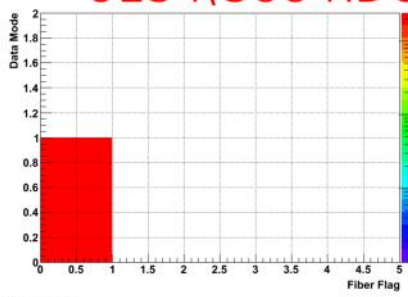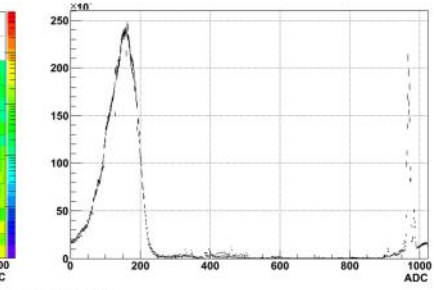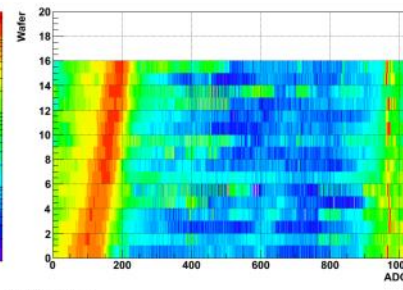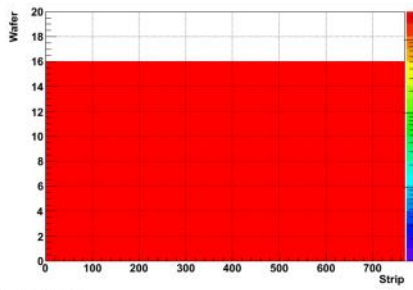
0135(300 RDO data)
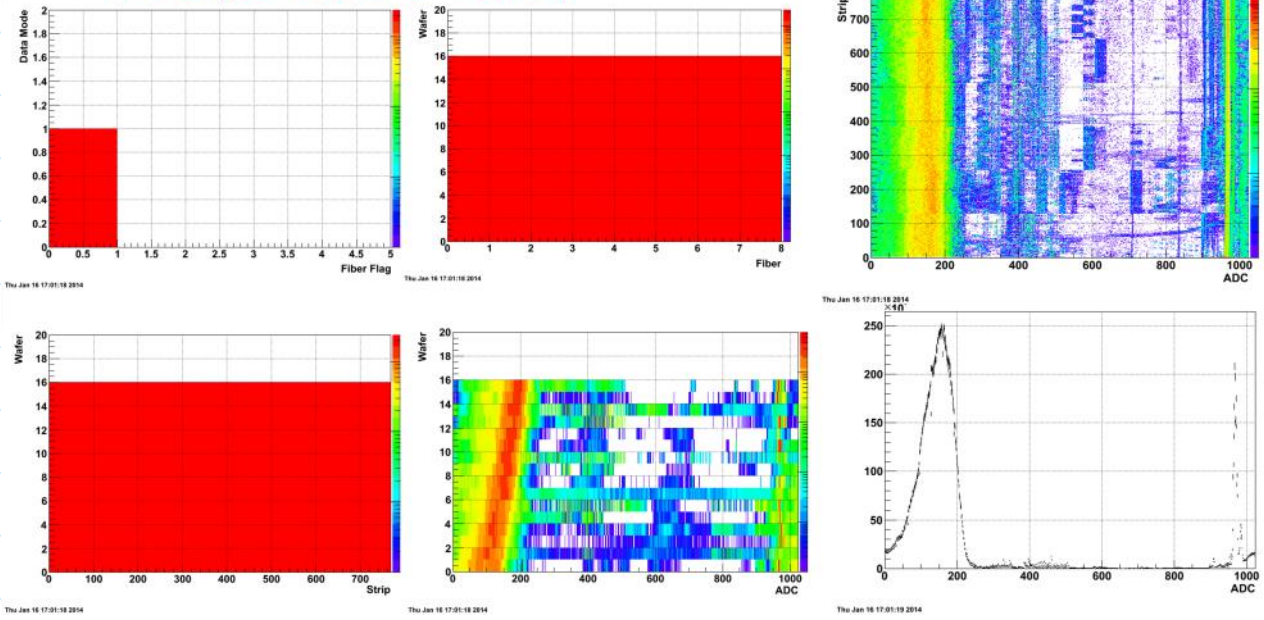
0234(200 RDO data)
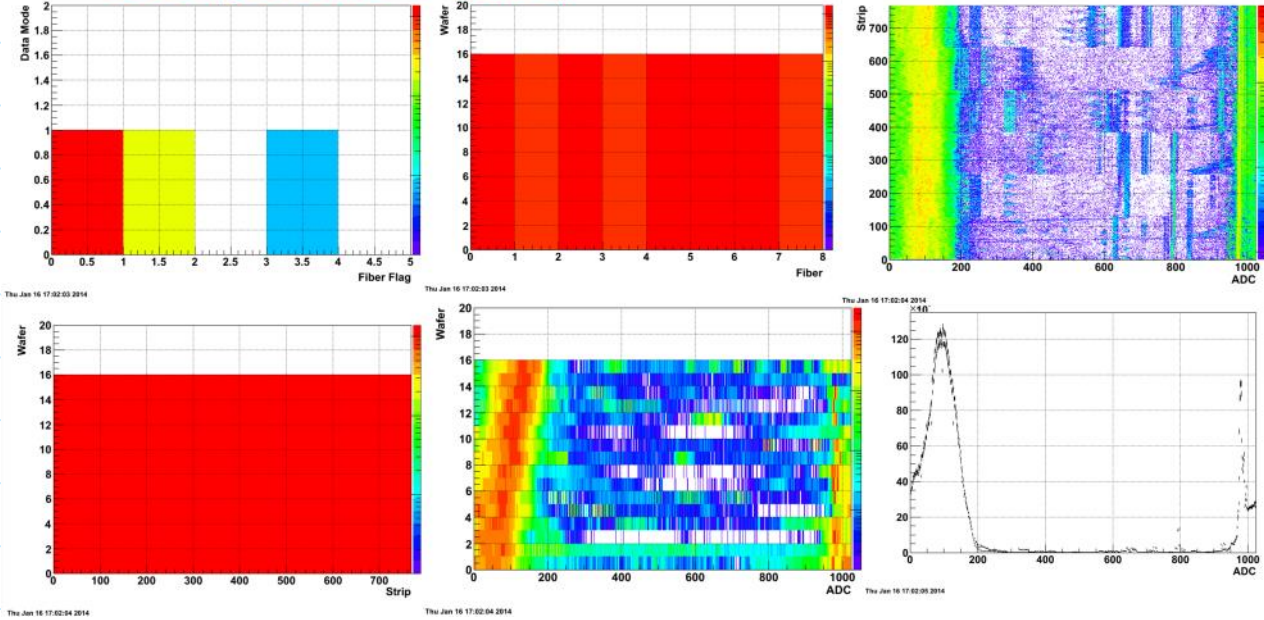
0235(200 RDO data)

All the QA plot are depend on our newest DAQ format document.