

Note about Run/Event headers

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Dubna May 11, 2020

DAQ Raw Data

```

7667 events in the spill
MSC16: BC1 97604, BC2 49584, BC3 7668, BeamTrigger 46937, L0 13170, TrigProtection 98491, BT&Busy 36828
U40VE: cand 13168, acc 7667, before 2166, after 365, rjct 96974, all 40419, avail 31950
100 events in the spill
MSC16: BC1 0, BC2 0, BC3 101, BeamTrigger 0, L0 100, TrigProtection 0, BT&Busy 0
U40VE: cand 100, acc 100, before 0, after 0, rjct 0, all 0, avail 0
7776 events in the spill
MSC16: BC1 99579, BC2 50042, BC3 7777, BeamTrigger 47275, L0 13132, TrigProtection 100605, BT&Busy 37175
U40VE: cand 13132, acc 7776, before 2139, after 365, rjct 98980, all 40604, avail 32191

```

$$Flux = \sum_{spills} \left[(BT \wedge \overline{Busy}) * \frac{(T_{Accepted} - N_{Pedestals})}{(T_{Accepted} - N_{Pedestals}) + T_{Before} + T_{After}} \right] \quad (1)$$

Get Run Header

```
DigiRunHeader * runHeader = (DigiRunHeader*)file->Get("DigiRunHeader");
```

Total Flux

```
runHeader->GetBT()//Beam Trigger
```

```
runHeader->GetBTnBusy()//BT  $\wedge$   $\overline{Busy}$ 
```

```
runHeader->GetBTAccepted()//Total Flux
```

[✓]BM@N setup: Ready

[▷]SRC setup: In progress

Run Start/End precise time

```
runHeader->GetRunStartTime()
```

```
runHeader->GetRunEndTime()
```

Run Start/End precise time

eventHeader->GetEventTimeTS() // Precise Event Time (in TTimeStamp)

eventHeader->GetEventTime() // Precise Event Time (in ns (Double))

Get Event Trig Info (from U40)

eventHeader->GetTrigInfo() // Beam Trigger

Trigger counters

trigInfo->GetTrigCand() // Trigger Candidates

trigInfo->GetTrigAccepted() // Accepted

trigInfo->GetTrigBefo() // Before Protection

trigInfo->GetTrigAfter() // After Protection

trigInfo->GetTrigRjct() // Rejected

trigInfo->GetTrigAll() //?

trigInfo->GetTrigAvail() //??