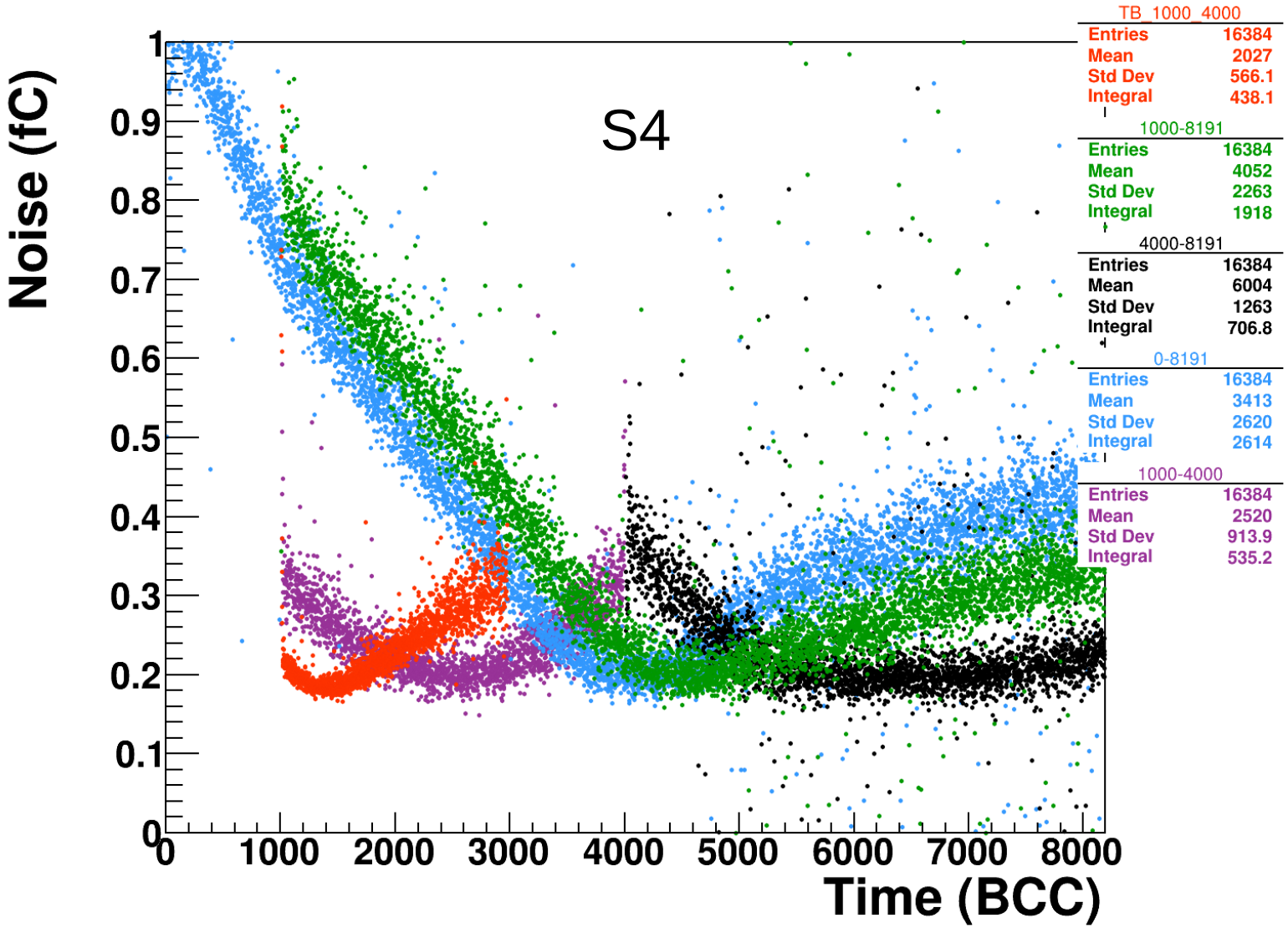
More time dependent noise

- Recap of my last few mails.
  - I decided to check the noise depending on when I start and end the data acquisiton.
  - The result can be seen to the right.
  - This is the noise after pedestal AND common mode subtraction at the time the trigger was received
  - The pattern is unclear, the time scales are from 0 ms to 21ms (8191 BCC)
- Peter and Marcel are of the opinion that this should not be analog frontend related.
- His thoughts are either that we have some massive amounts of bit shifts happening that the current power supplies cannot compensate quickly enough or some temperature effects
- Side question: Is the BCC gray coded?



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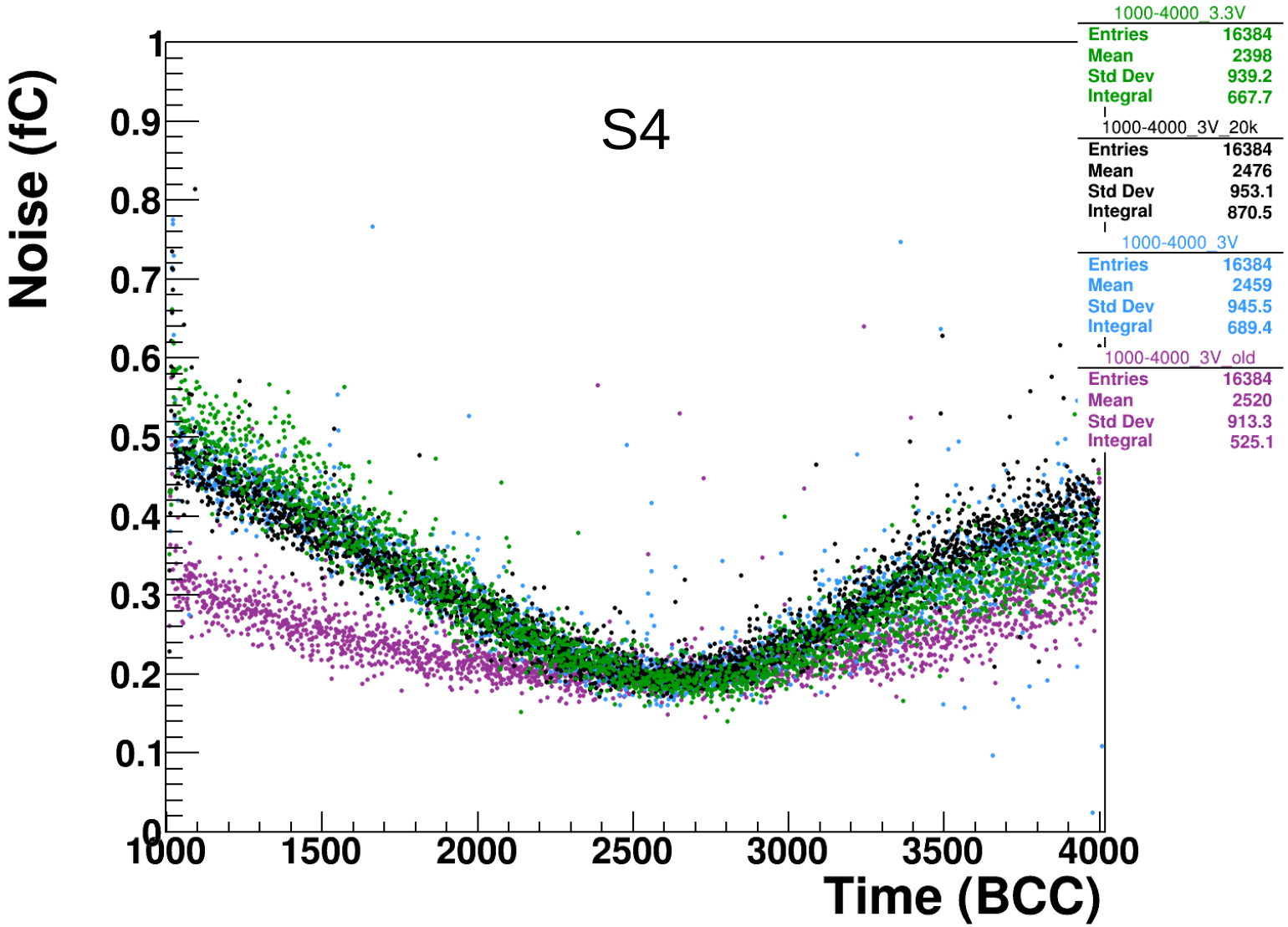
- We decided to check how it looks when I increase the voltage on the LR from 3V to 3.3V (output voltages are still 2.0 and 2.5V)
- I see no differences, only one old file has a less extreme dependence.
- This old file is from last week wednesday.
- This week it was significantly warmer in Hamburg than last week. Some heating effects that we cannot compensate fully with the power pulsing?
- Need to get the KpiX temperature data (sent mail to ben asking if that is provided and if not how we can get it)



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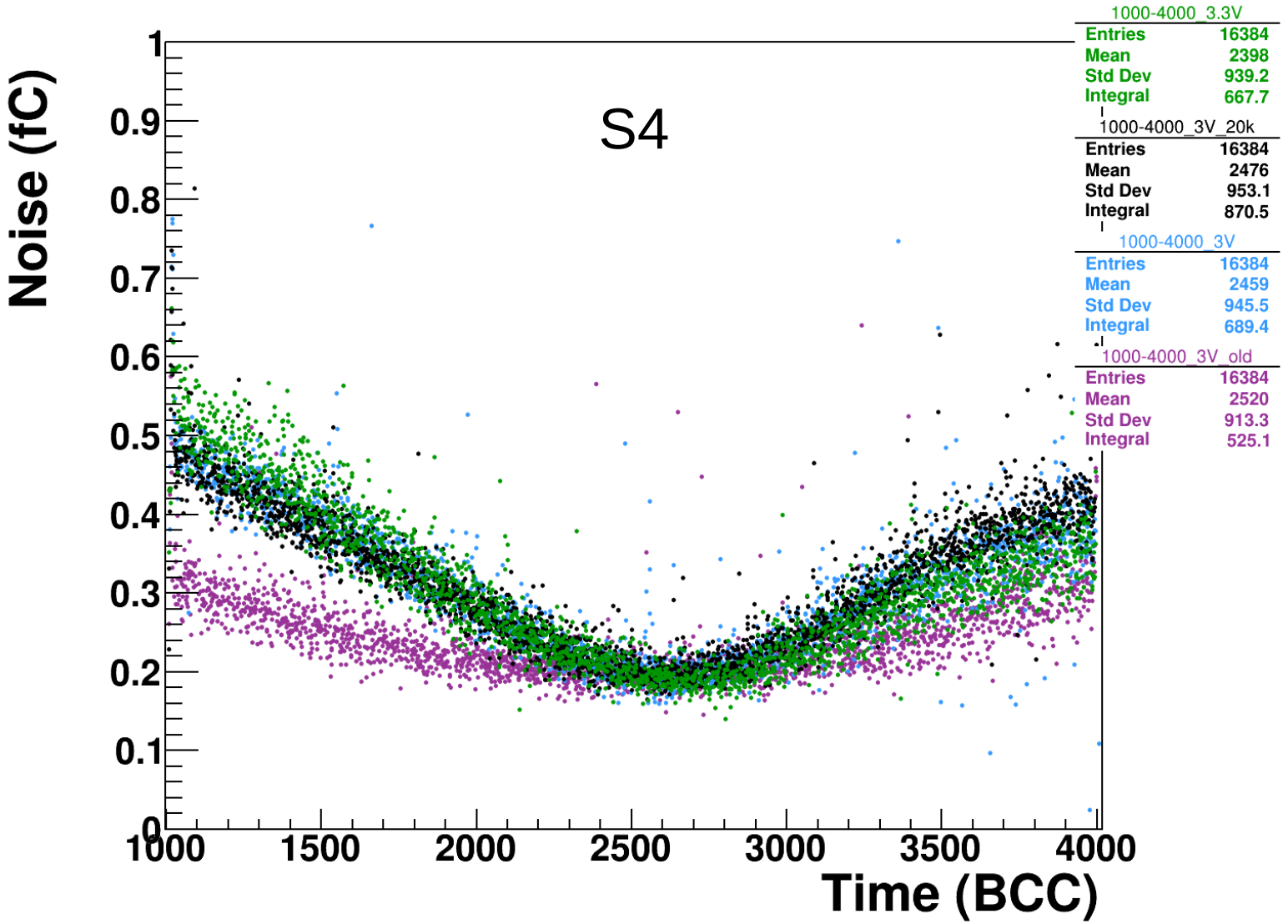
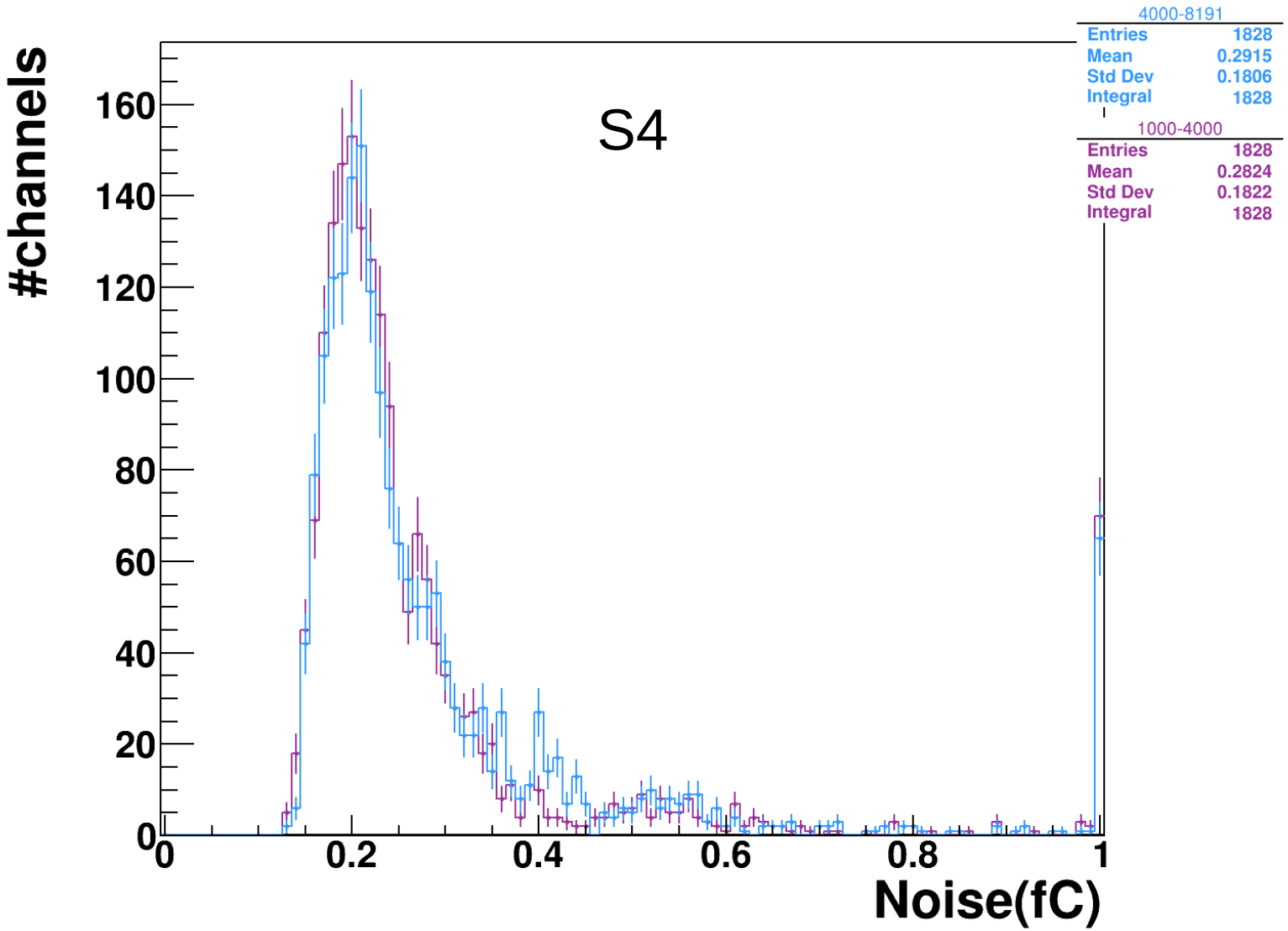


70ns running

- After adjusting all settings I started the 70ns acquisition clock running requested by marty.
- This shows significant differences to our 320 ns runs. (see backup for all plots)
- While the overall noise distribution sees basically no differences



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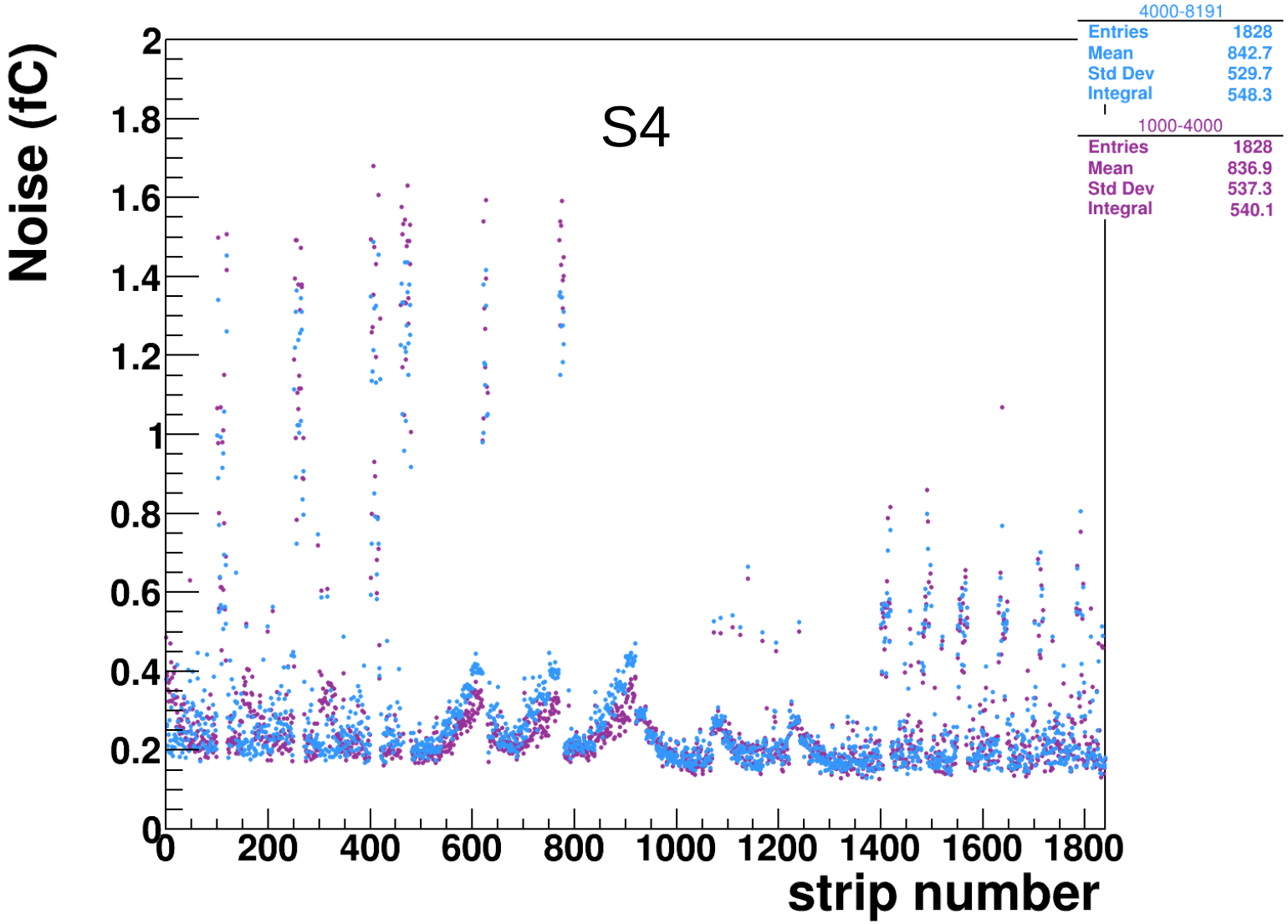

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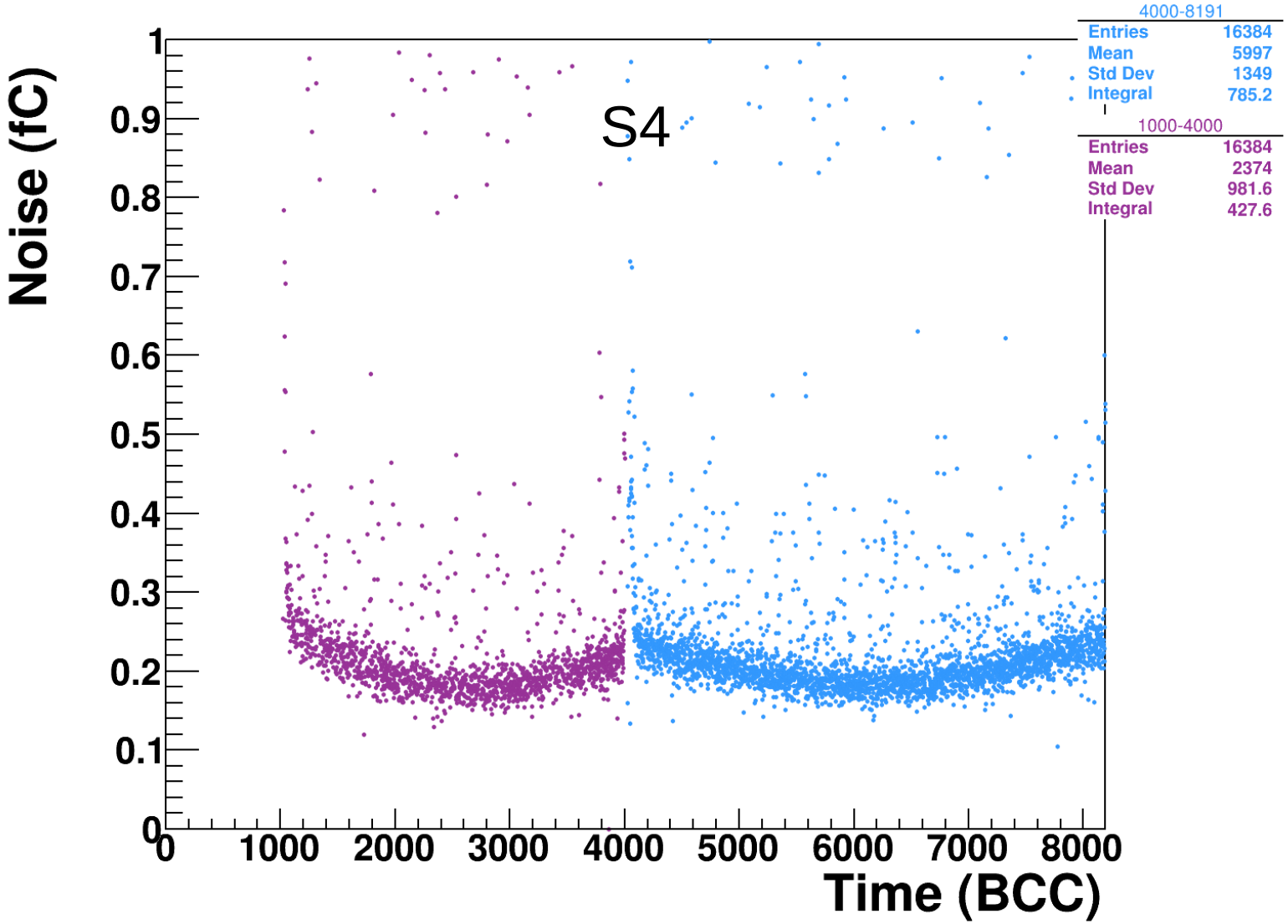

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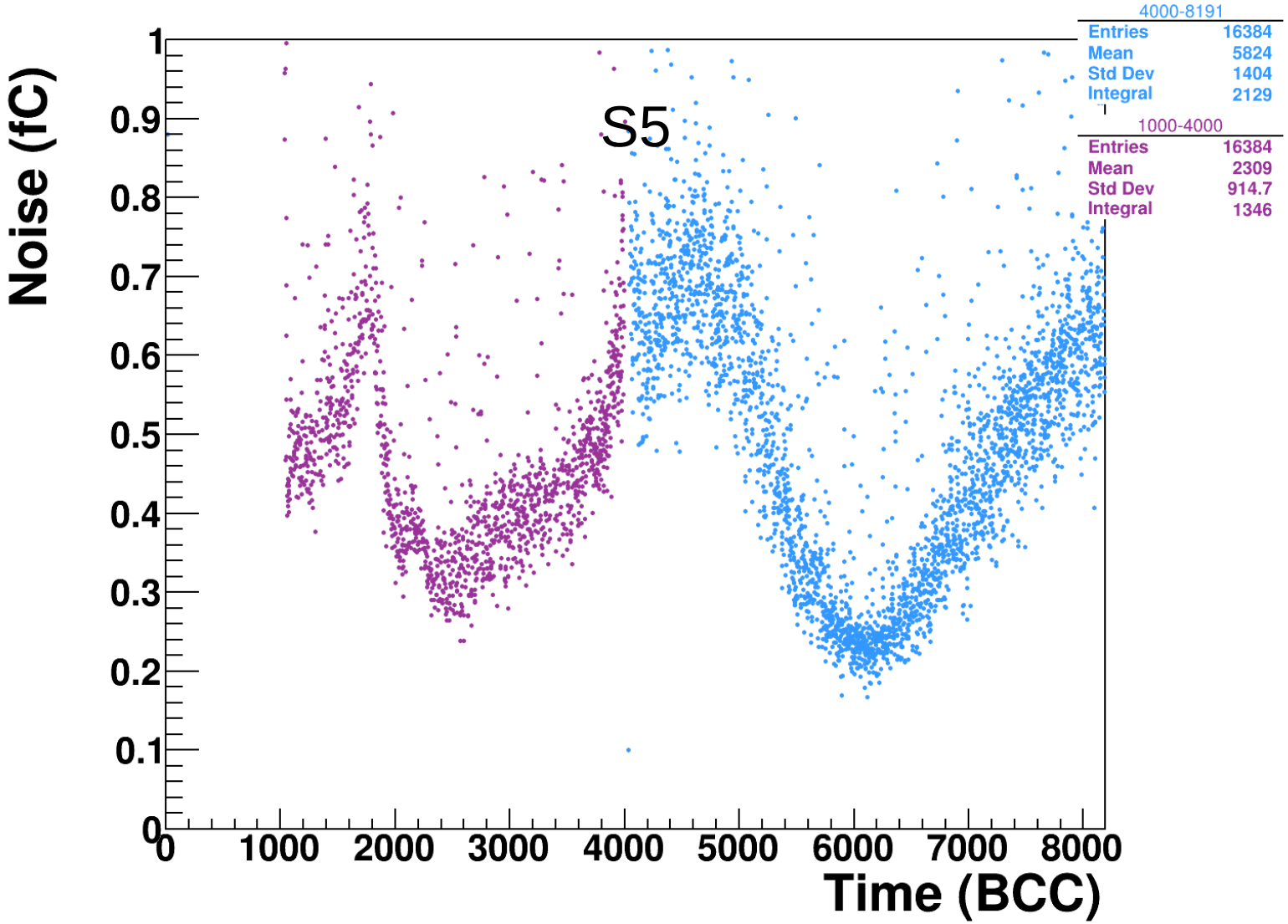
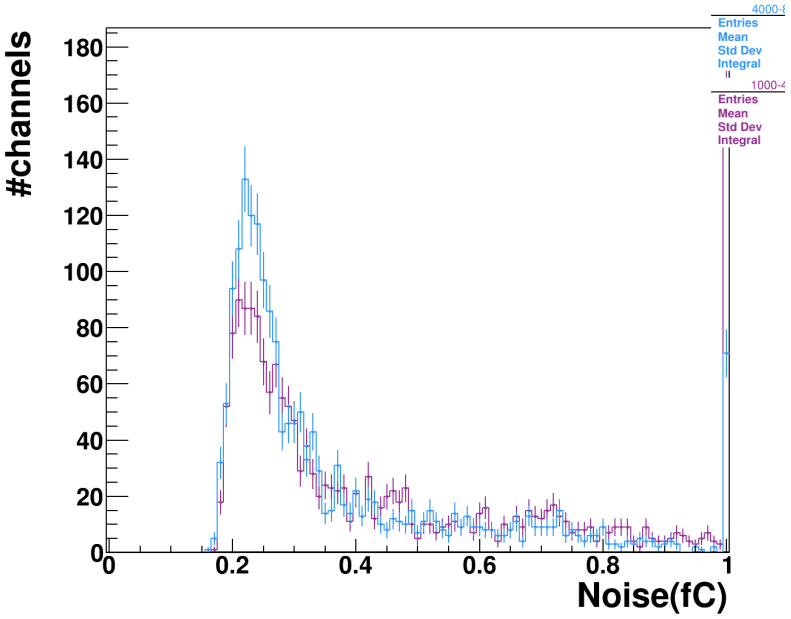
- And neither does the noise v strip (except that maybe here the early window is a bit better for this sensor)
- The noise v time actually shows a symmetric pattern.
- Which for some sensors is even stronger.

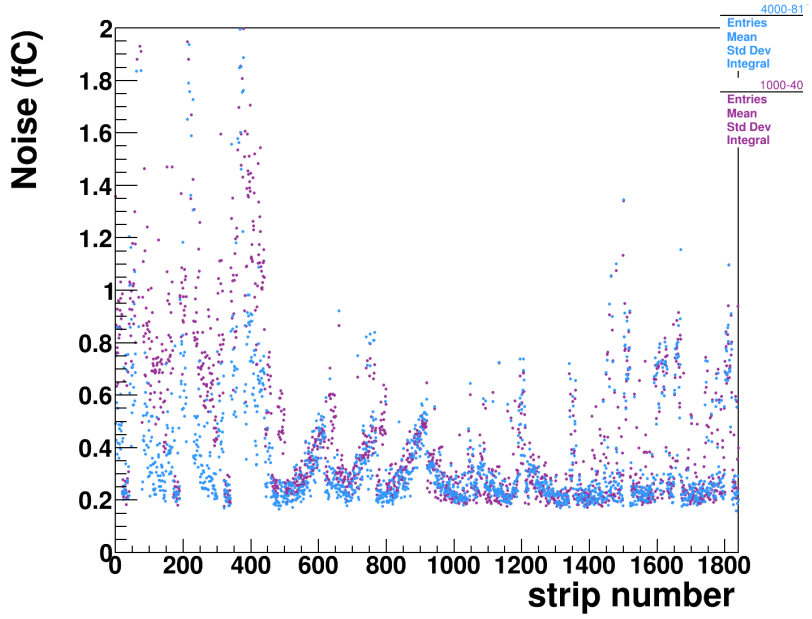
- Still not all show this exact pattern repeated so I need to repeat the measurement tomorrow with more different patterns

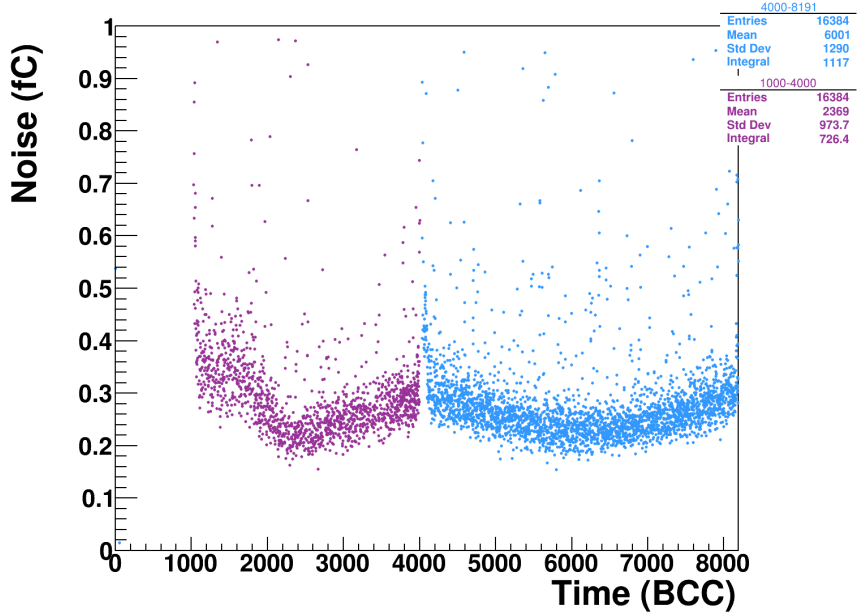


Backup

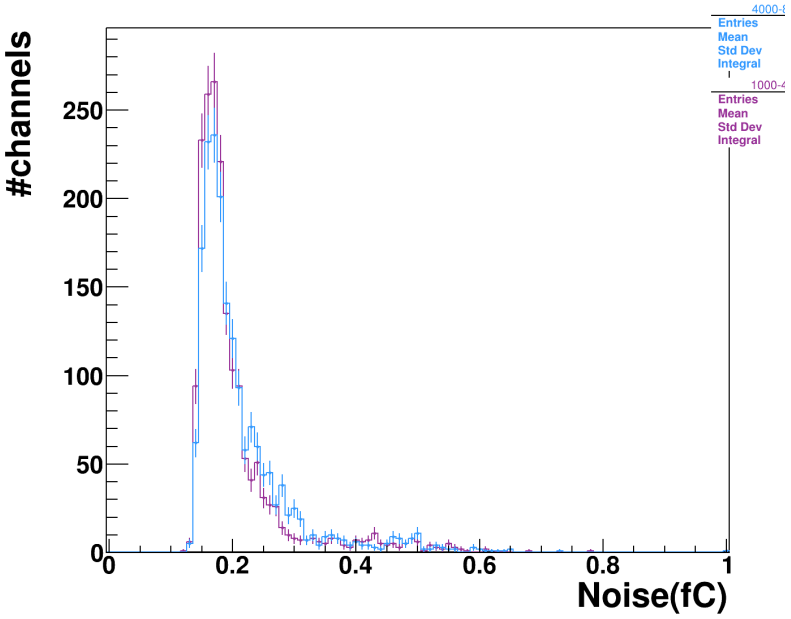
70ns running (S0)

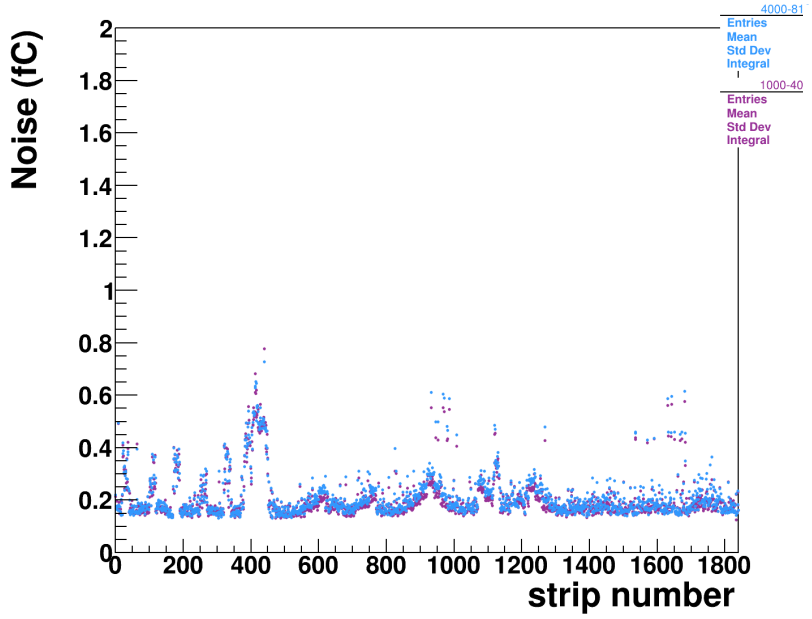


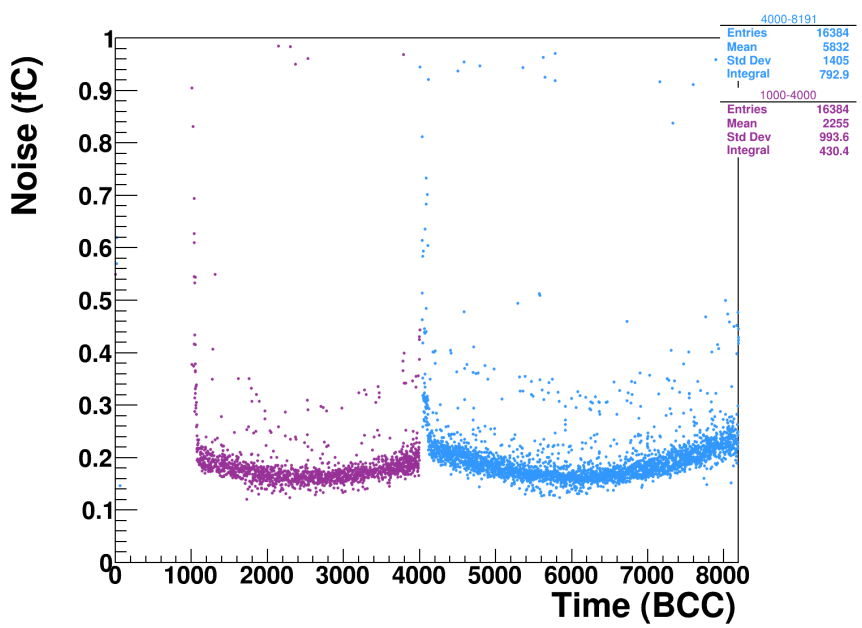




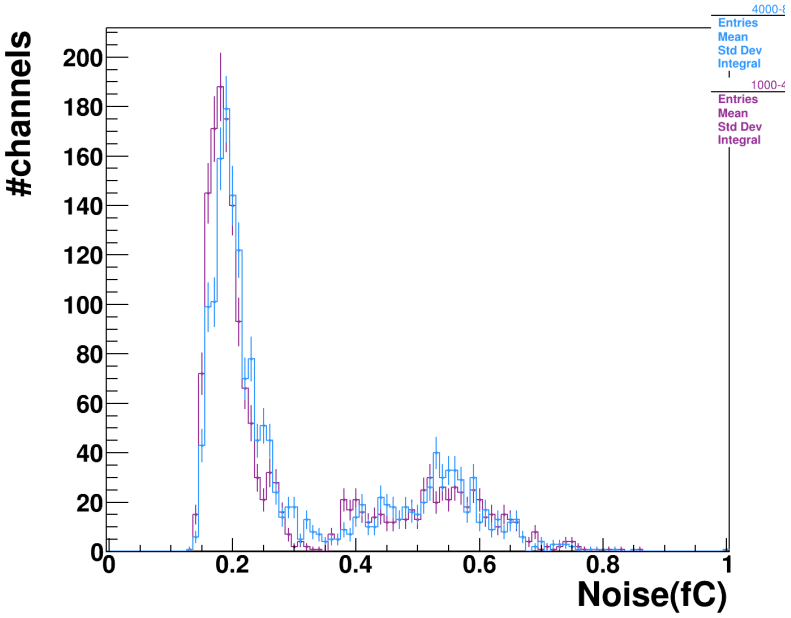
70ns running (S1)

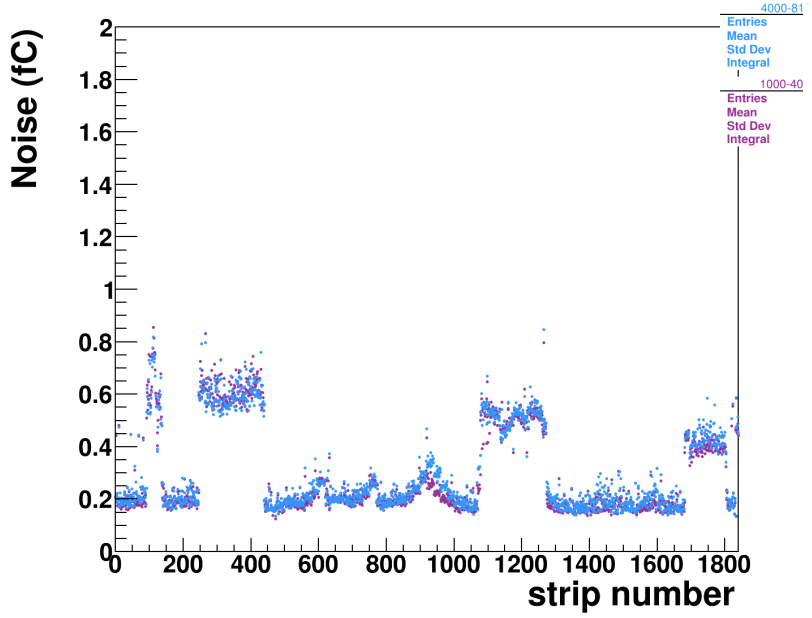


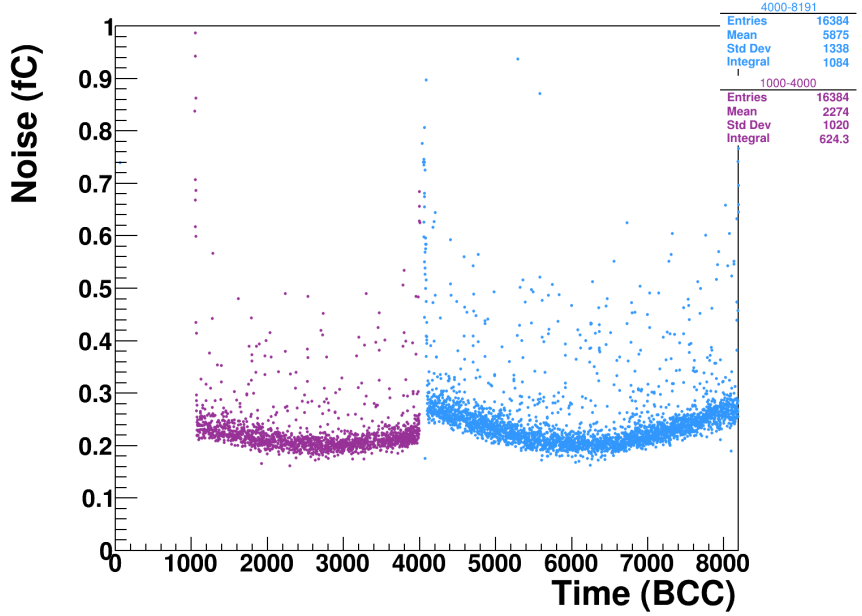




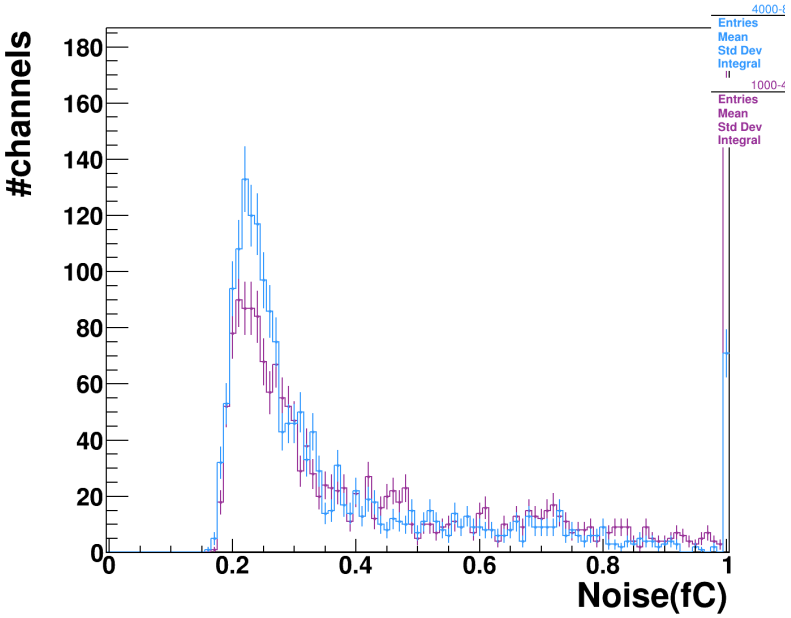
70ns running (S2)

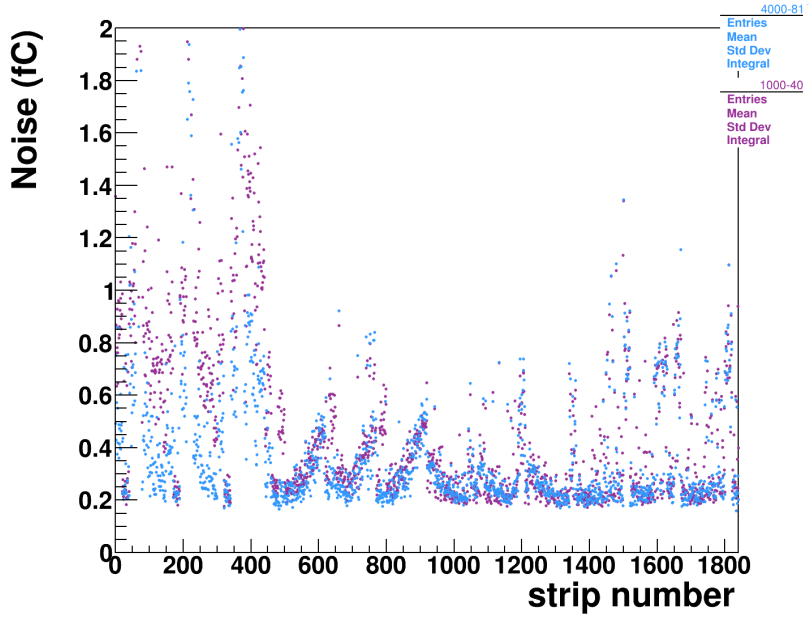


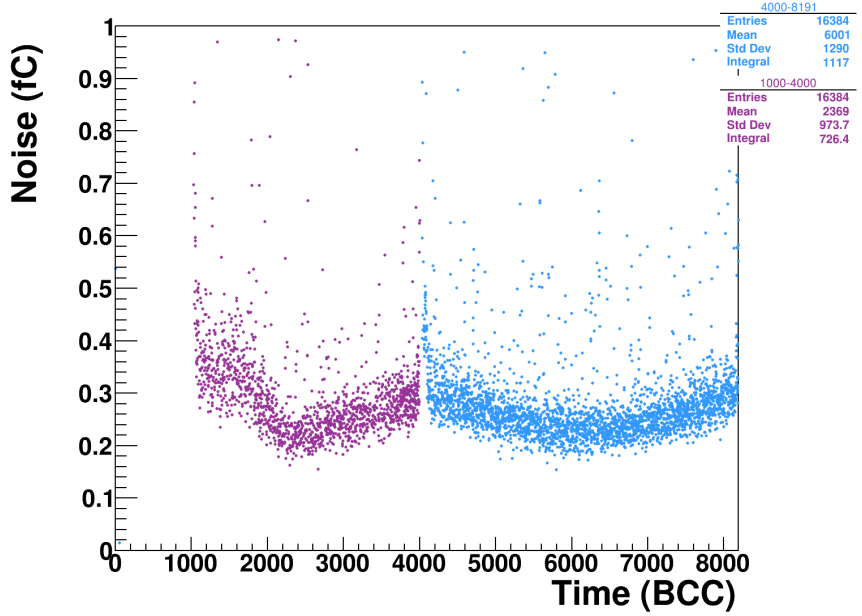




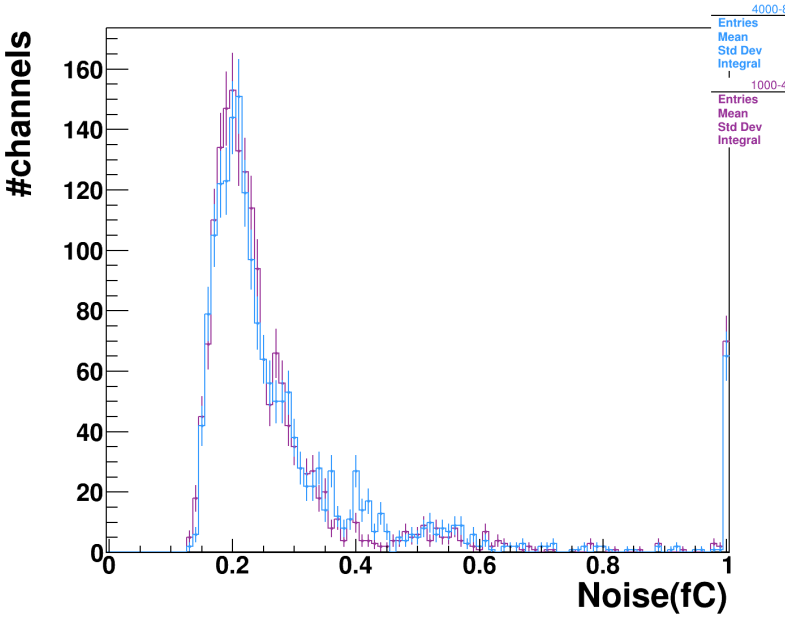
70ns running (S3)

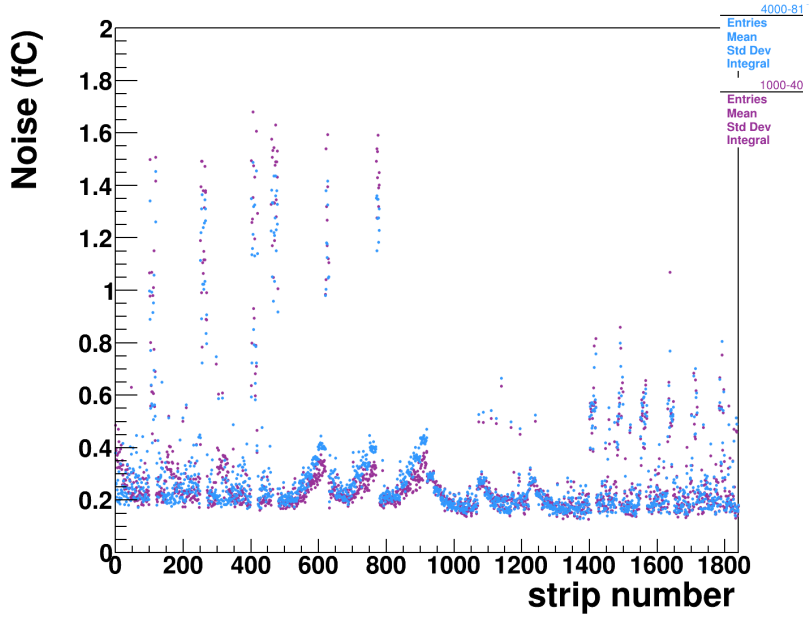


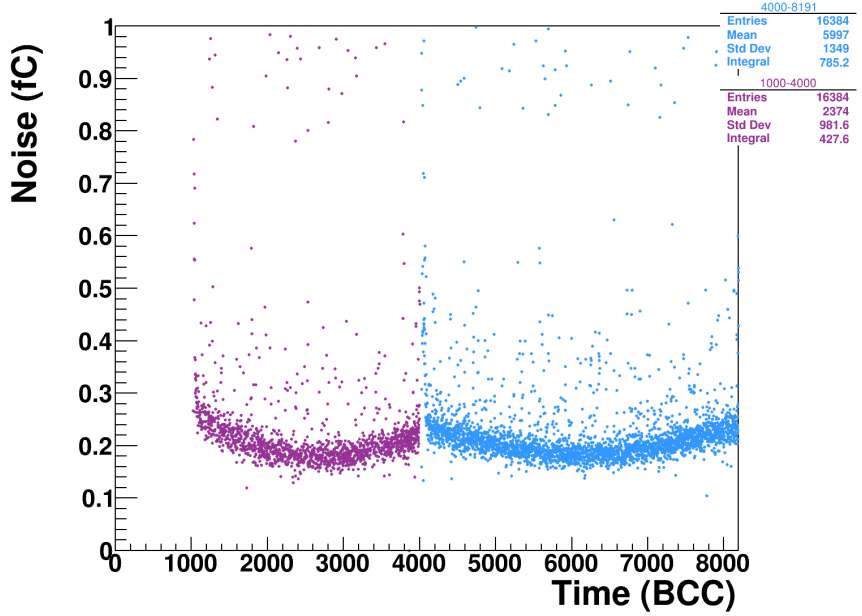
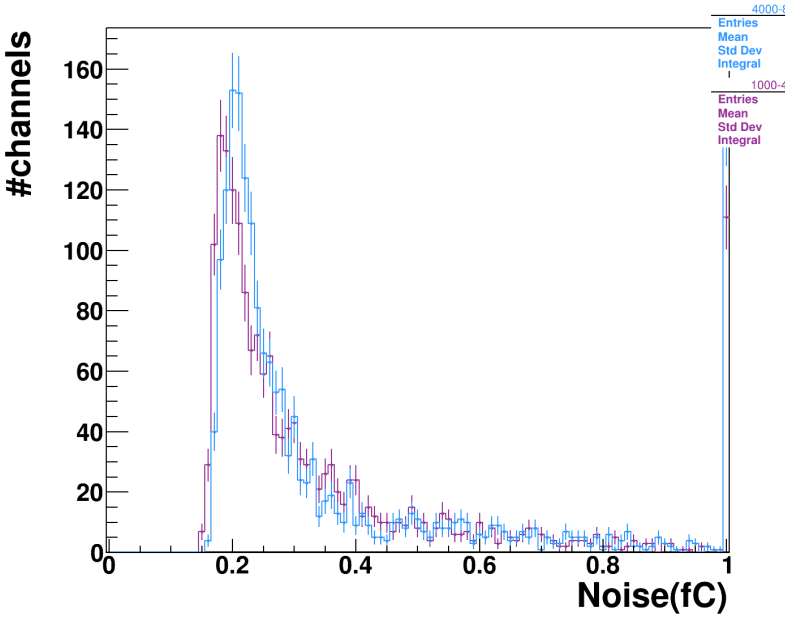
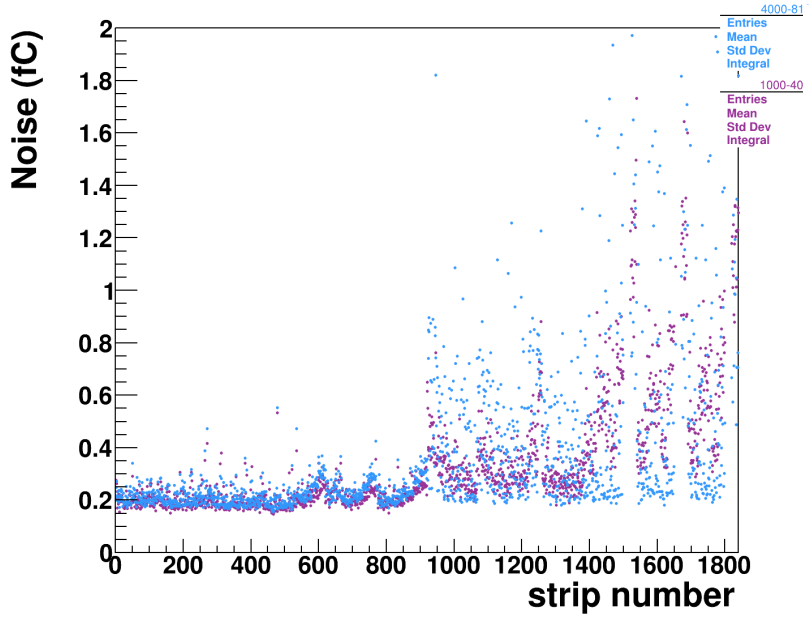
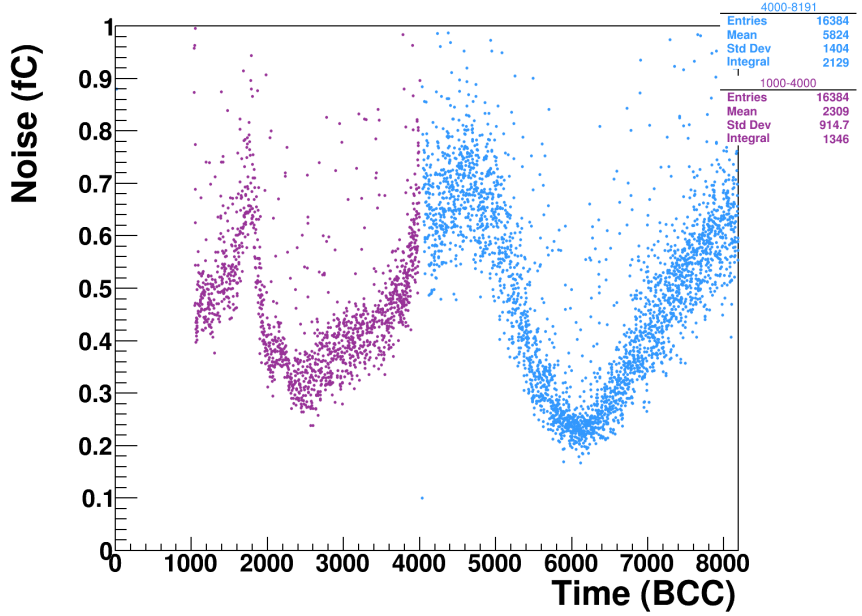




70ns running (S4)







70ns running (S5)