

CDC FE: DAQ-related parameters

- ◆ Max. acceptable trigger rate: ~250 kHz/FE

- 12-Byte header
- 10-Byte event data per ch
- assuming all channels have hits
- assuming ideal 1 Gbps throughput

- ◆ Limitation of the current FEE

- throughput: 1 Gbps via SFP
- acceptable latency: <8 us

- ◆ Possible future improvements

- throughput: 20 Gbps
 - 2 lanes of 40G QSFP on the upgraded FEE
- acceptable latency: <16 us or longer
 - both the current FEE and the upgraded FEE

data format of the suppress mode

			15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Header			Packet Type								Board ID							
			Sent Number															
			0	Trigger Time														
			Data Length															
			Trigger Count Upper Bits															
			Trigger Count Lower Bits															
Event Data	Hit Channel Data 0	Header	Channel ID								Length							
			Count Over Threshold															
		ADC	Summed ADC Value															
		TDC	TDC Hit 0 (TDC Hit 1)															
	Hit Channel Data 1	Header	Channel ID								Length							
			Count Over Threshold															
		ADC	Summed ADC Value															
		TDC	TDC Hit 0 (TDC Hit 1)															
	Hit Channel Data 2	Header	Channel ID								Length							
															
	Hit Channel Data N _{CHdata}	TDC	(TDC Hit 1)															