Aerogel FEE

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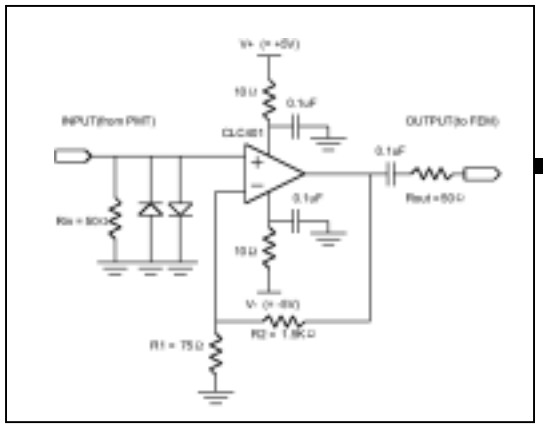
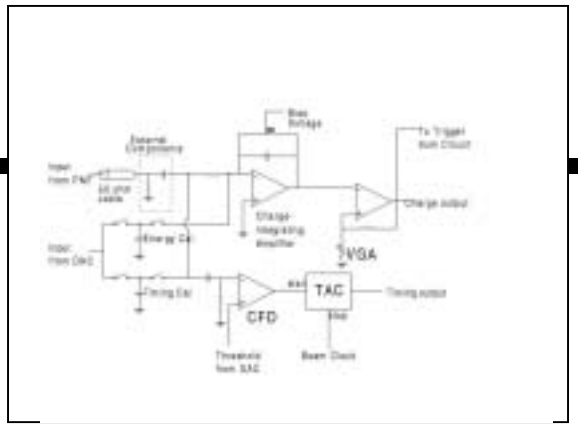
- Basic concept
- Modification
- Trigger

Basic concept

- The front end electronics of the Aerogel detector is based on the electronics of RICH.
  - →The RICH electronics is optimized to measure the Chrenkov light.

RICH electronics





- Analog Memory
- ADC
- Read out to DCM
- Trigger out

Pre Amplifier

Gain 10

B.W. 150 MHz

Integrater Chip

Other circuits

RICH FEE

Modification for Aerogel

	Aerogel	RICH
Type	E6316-01	H71315
N_channel	**600**(300*2)	**5120**
Mean p.e.	**10**	**3**
PMT Gain	10^7	10^7
Pulse height	70 mV	20 mV
Rise time	**15** ns	**2** ns

- Characteristics of signals and PMT of Aerogel and RICH

- Gain of the pre amplifier should be changed to match the dynamic range of the Int-R chip and the AMU/ADC chip. (Gain of pre amp. of RICH is 10.)
- Band width and time constant of the pre amplifier and the input of the Int-R chip should be checked.

Trigger?

- If we use the Aerogel detector for trigger,
  - ➔One trigger segment of RICH has 20 PMT's.
  - ➔The signals from 20 PMT's are summed in the RICH FEE.
  - ➔If one trigger segment of Aerogel has the different number of PMT from RICH, we have to modify follows.
    - ➔ Integrater chip
    - ➔AMU/ADC board
    - ➔Back plane
    - ➔Trigger module

Summary

- The front end electronics of the Aerogel detector is based on the electronics of RICH.
- Pre amplifier should be modified.
- The number of channel and the trigger scheme should be considered.