

Reflector Connector Tests at CalDet

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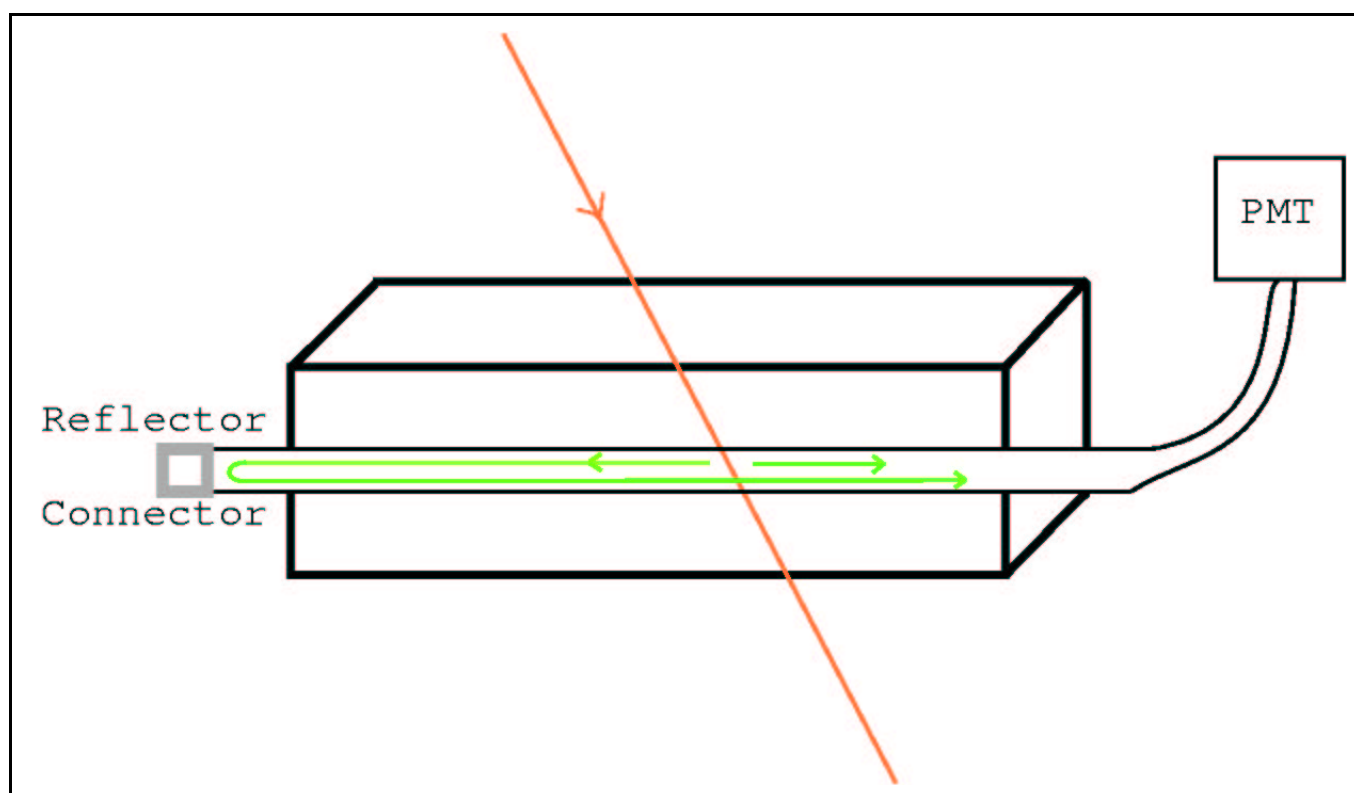
Overview

- **Reflector Connectors:** NearDet uses special connectors
- **Path through Detector:** Light injection used for test
- **Results:** Lower than expected amount of light reclaimed
- **Attenuation:** Fit using 1,6m
- **Next...** Aluminised Mylar



Reflector Connectors

- The NearDet needs to use Reflector Connectors because the read-out is single-ended
- The light has to be bounced back into the PMT's from the other end

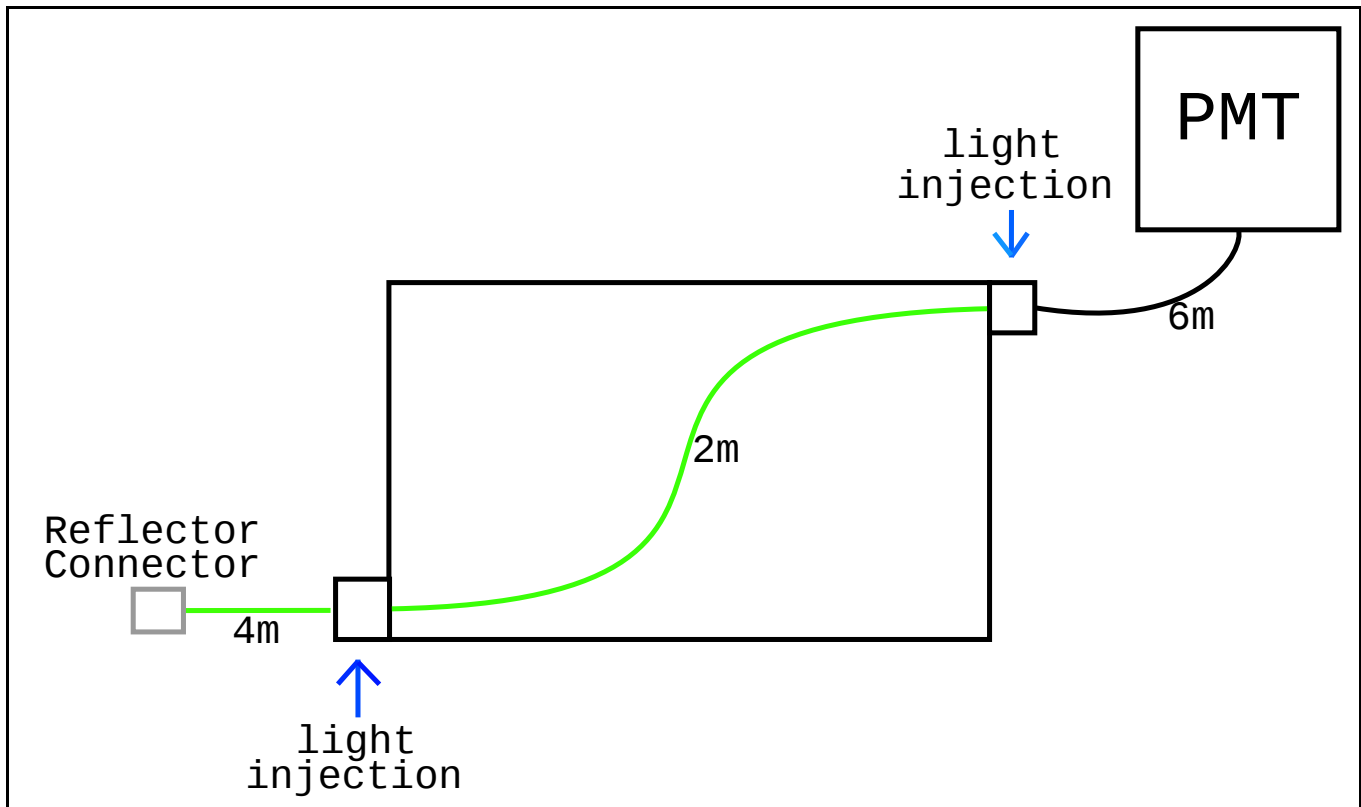


- Two prototype reflector connectors made at CalDet
- White paper and Aluminium foil used as reflective surfaces



Path through detector

- Light Injection used to test effect

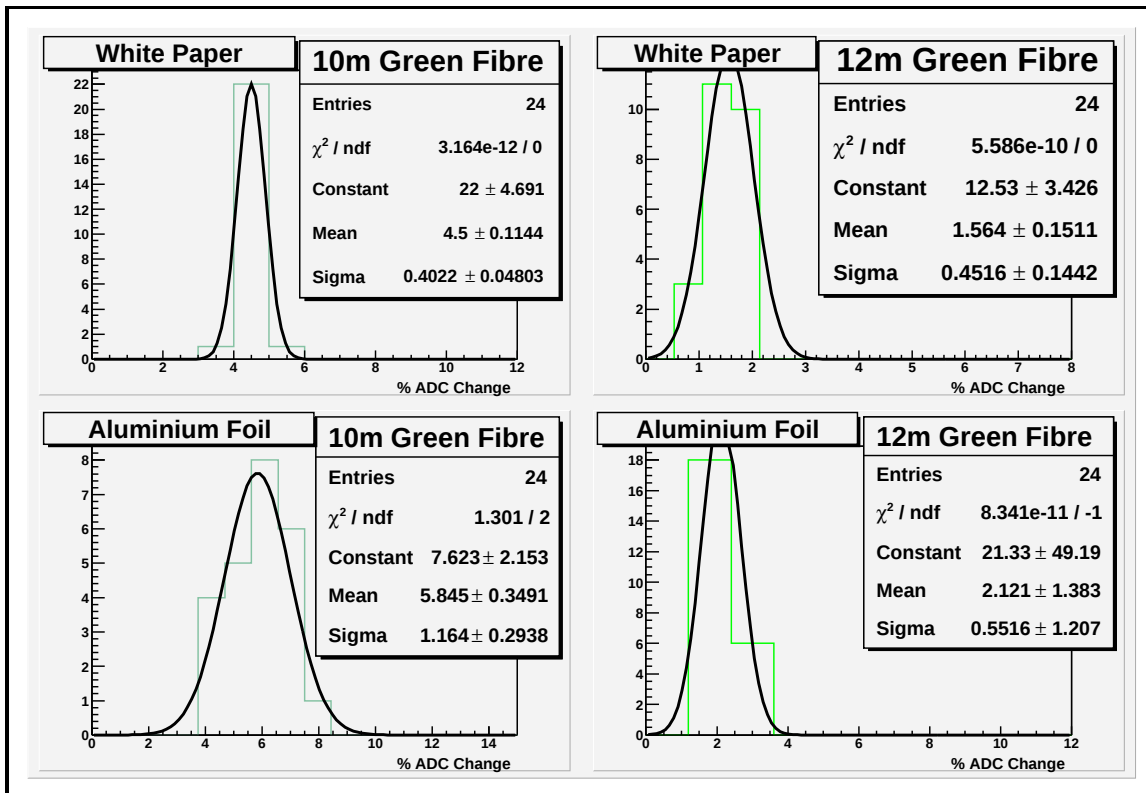


- Light goes through the detector once or twice depending on which side is flashed
- Total green fibre length is 10 or 12 metres depending on the LI route



Results

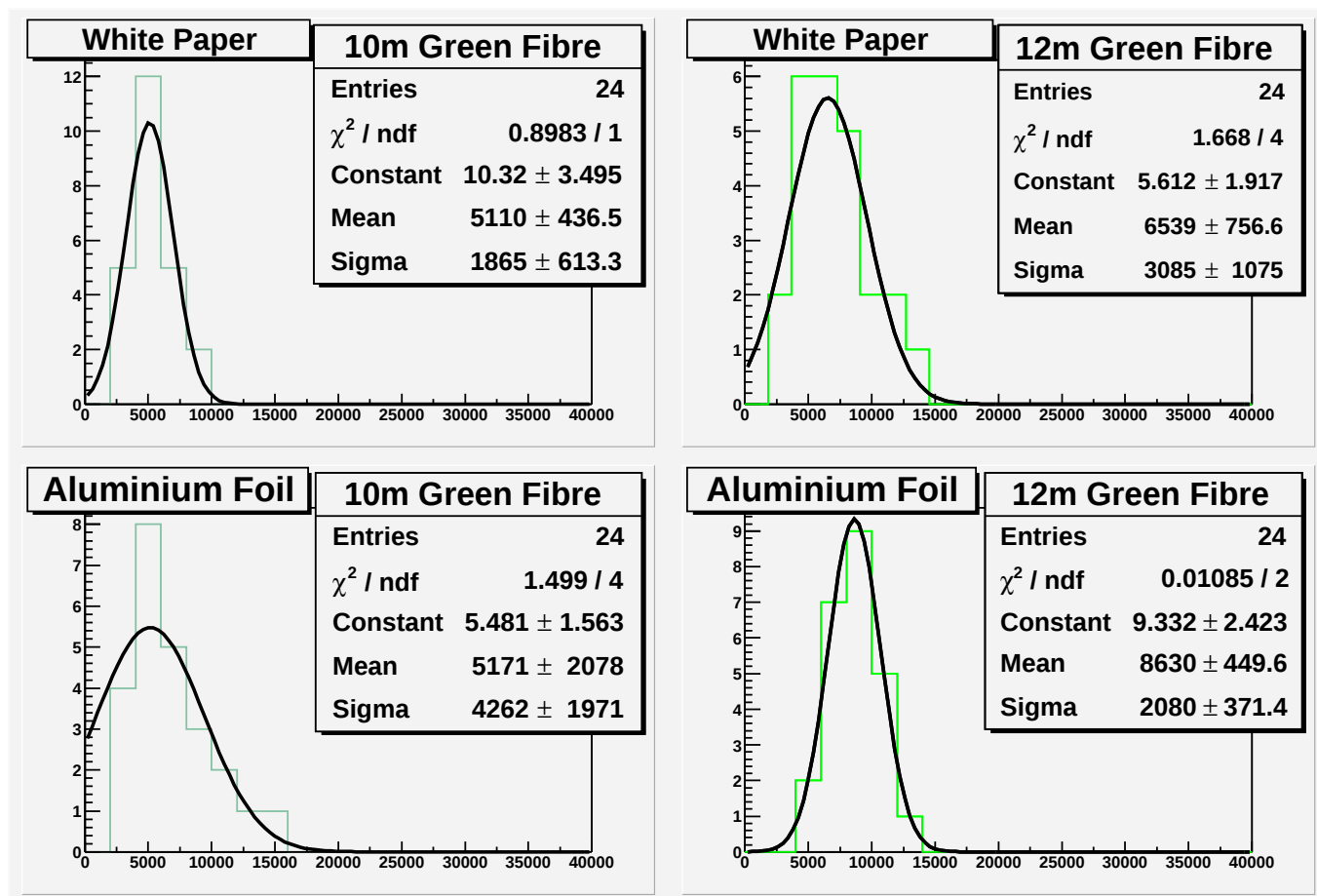
- Left graphs: Light goes through the detector once
- Right graphs: Light goes through the detector twice



- More light reflected from aluminium than paper
- Less effect with more attenuation



Attenuation Check



- Fitting with 1,6 m attenuation yields reasonable results



Next...

- Light output benefit is quite low
- Try aluminised mylar reflector connector