

# Laser-based calibration system

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## Outline:

-  Basic ideas and goals.
-  Schematics.
-  Trigger integration.
-  Current Status.
-  Next Steps.

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## Basic idea:

 UV light from a N<sub>2</sub> laser coupled to optical fibers to distribute the light in the center of the scintillator bars

## A possible/non-exhaustive list of goals:

 Channel to channel time offsets.

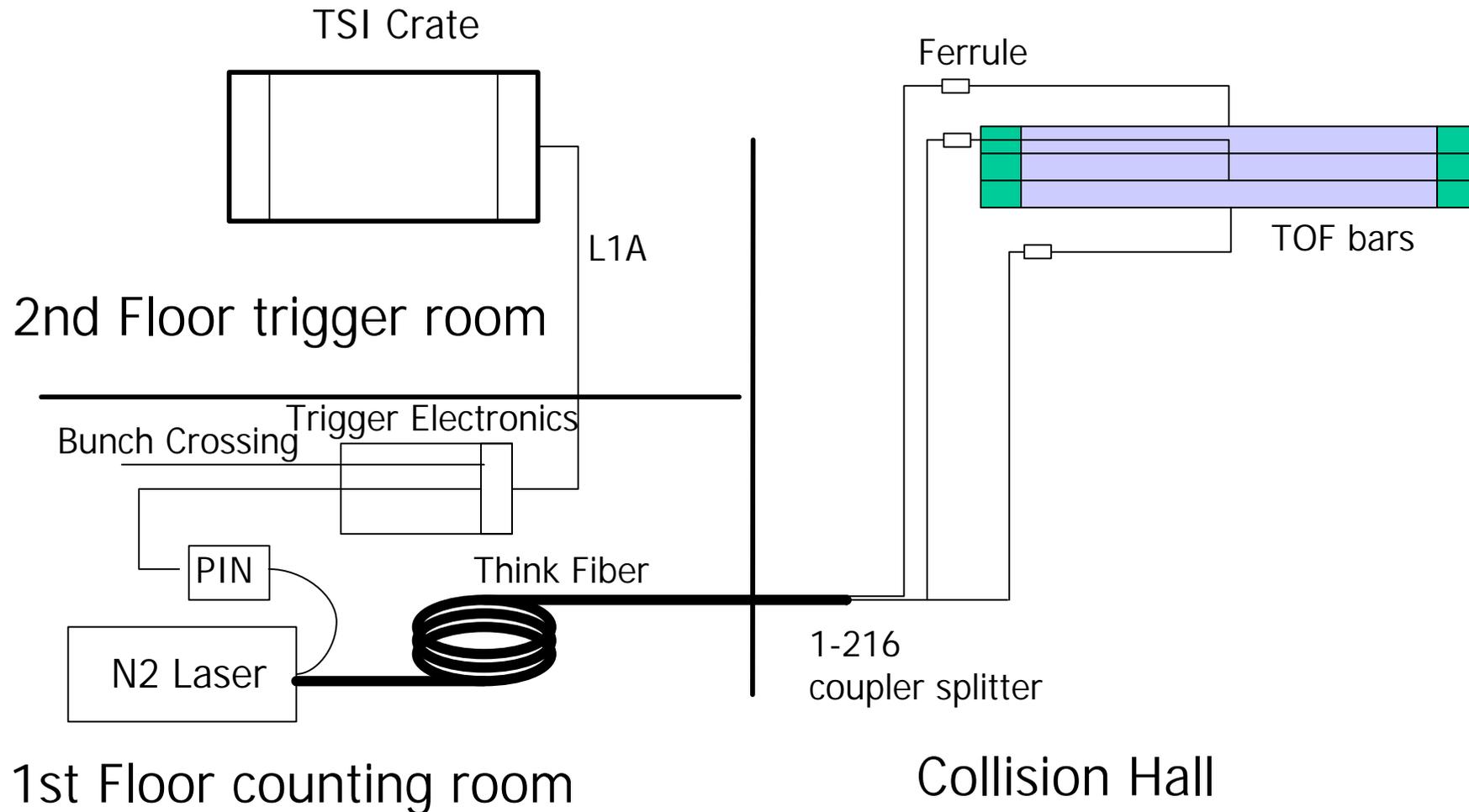
 Time slewing correction.

 Gain monitoring.

 Generic diagnosis tool.

 Others

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6/28/2001

I.Vila Time-of-Flight Meeting

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- ✍ Laser pulse and readout synchronization.
  - ✍ External triggering circuitry does not work.
  - ✍ Laser fired internally.
  - ✍ Whenever there is a coincidence between the bunch crossing signal and a laser pulse a level 1 accept signal is sent to the trigger supervisor.
  - ✍ Phase between bunch crossing and laser trigger signals has to be controllable.
- ✍ This trigger electronics has been already implemented by Penn

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## Current Status:

-  Optical fiber distribution system installed.
-  Fiber checkout before last detector roll-in:
  -  60% of the fibers are functional
  -  Significant light pulse amplitude spread
-  Laser, laser box, laser attenuators, trigger electronics are available

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 Next steps:

 Put together all the things

 Determine trigger rate and efficiency.

 Measure raw TDC and ADC distributions.

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