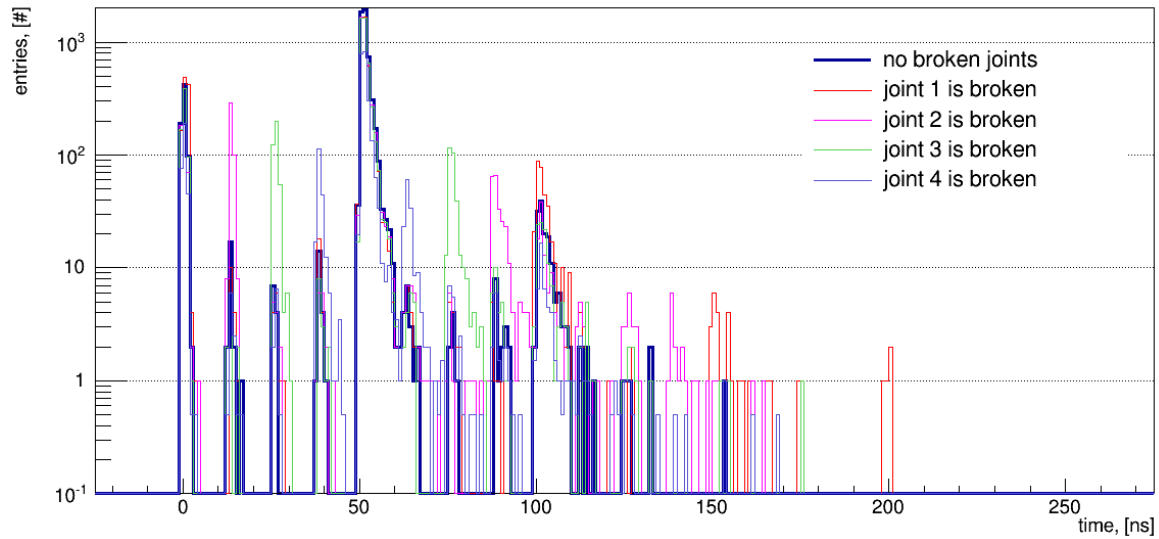
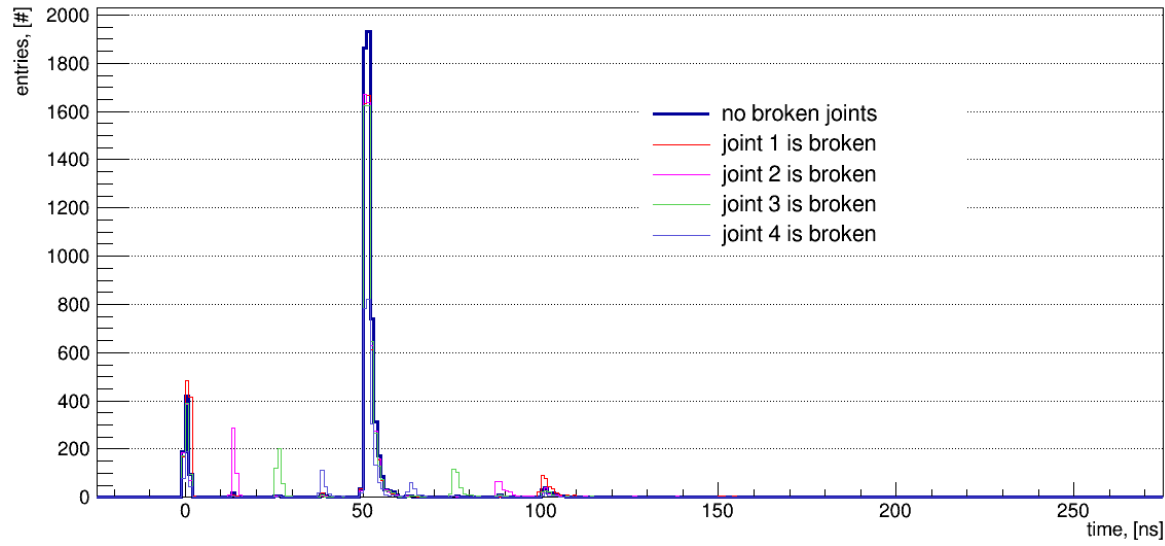
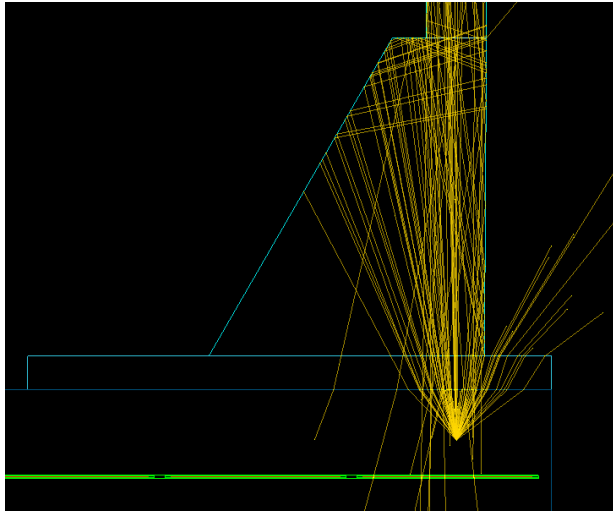


Bar Monitoring Discussion

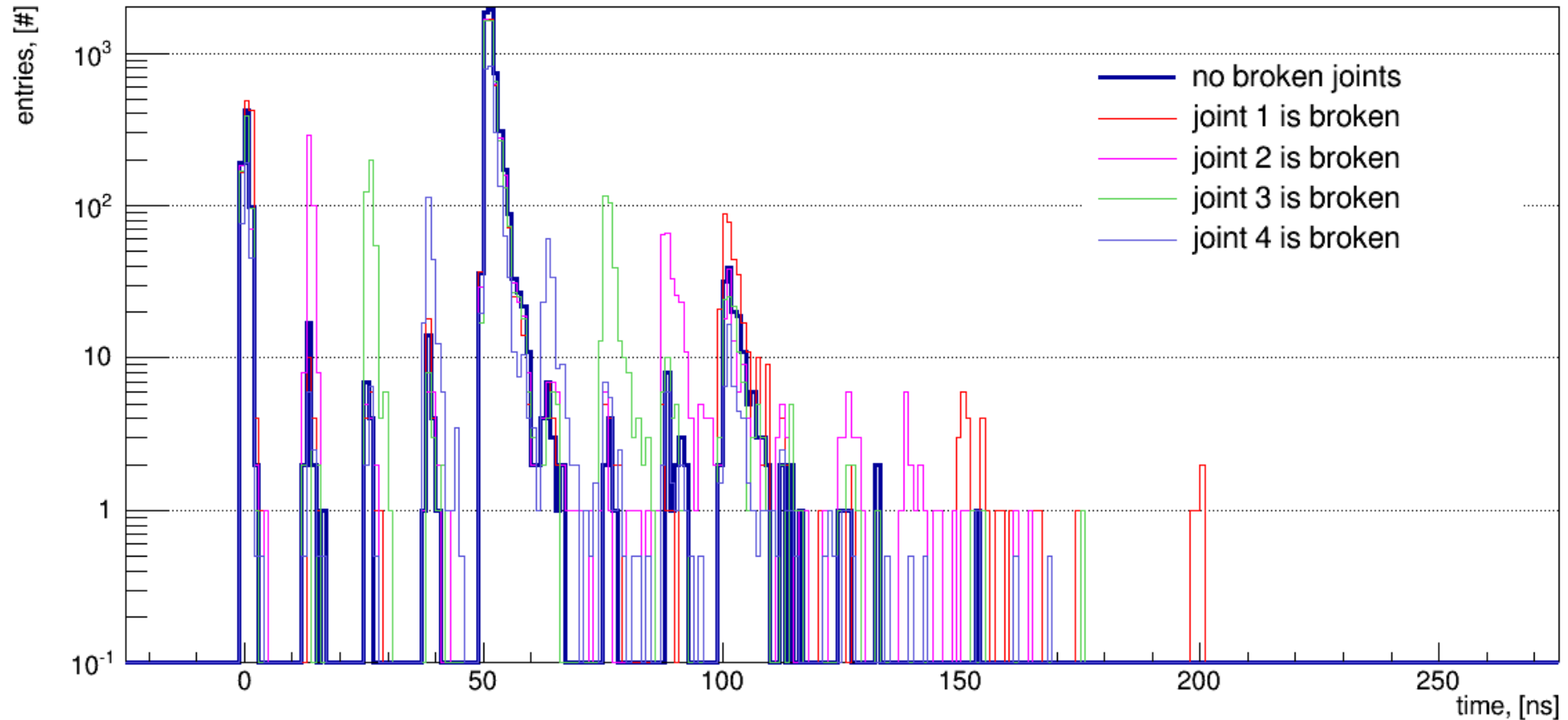
Requirements for the PMT System

- 10ns LED pulse
 - Produces $\sim 10^{10}$ photons for a 1 watt LED
- HV and PMTs inside the box and truck
- Readout with sufficiently accurate timing
- The ability to verify that this will work

Maria's Studies



Zoom on log scale



Just picked one of Maria's 4 studies (the uncollimated parallel light). Collimated is a bit sharper if we can achieve it.
Still assuming a flat break here.

Requirements for the camera based system

- Lights in the box
- Cameras in the box
 - Order 10
- A feed to a computer
- A human watching
 - A time lapse version/comparing to reference
 - 10 sec for the last hour is a good order of magnitude

Argument: We should pursue the camera

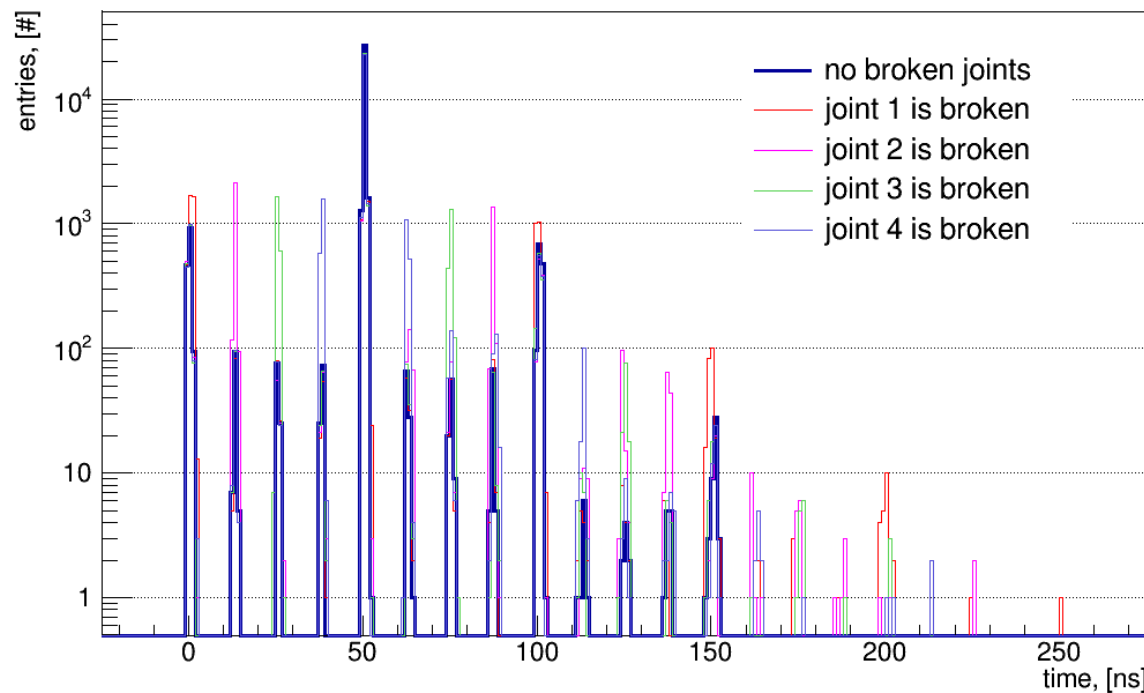
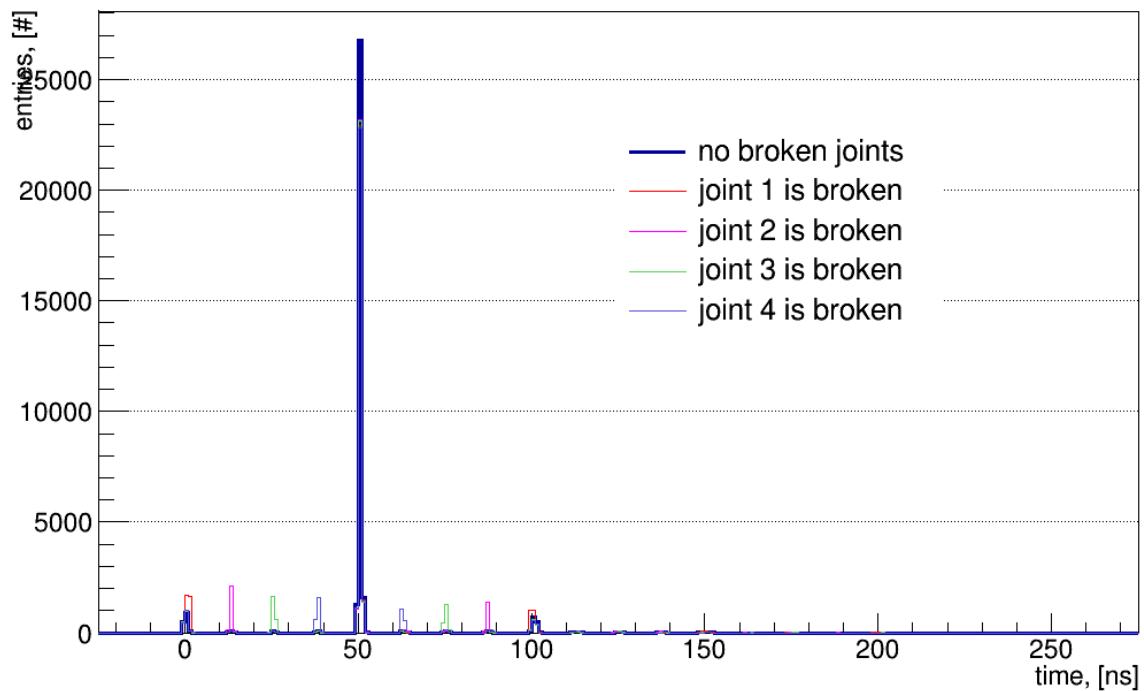
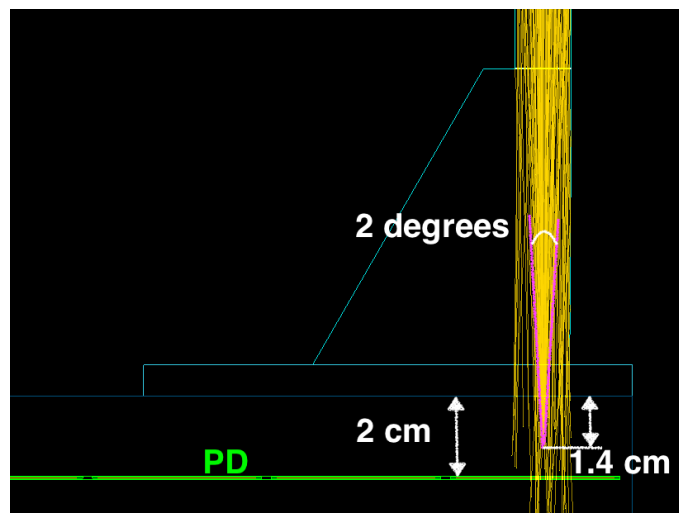
- PMT is much more vulnerable to misalignment or drift (mechanical and electrical)
- PMT requires more (and more sensitive) hardware to be present in the truck
- It is harder to be sure that any given algorithm analyzing the PMT will detect a change
 - Given that this is 1 3 day venture that does not need to scale, spending the human time makes sense
- It seems unlikely that a successful PMT implementation would outperform the camera

Discussion

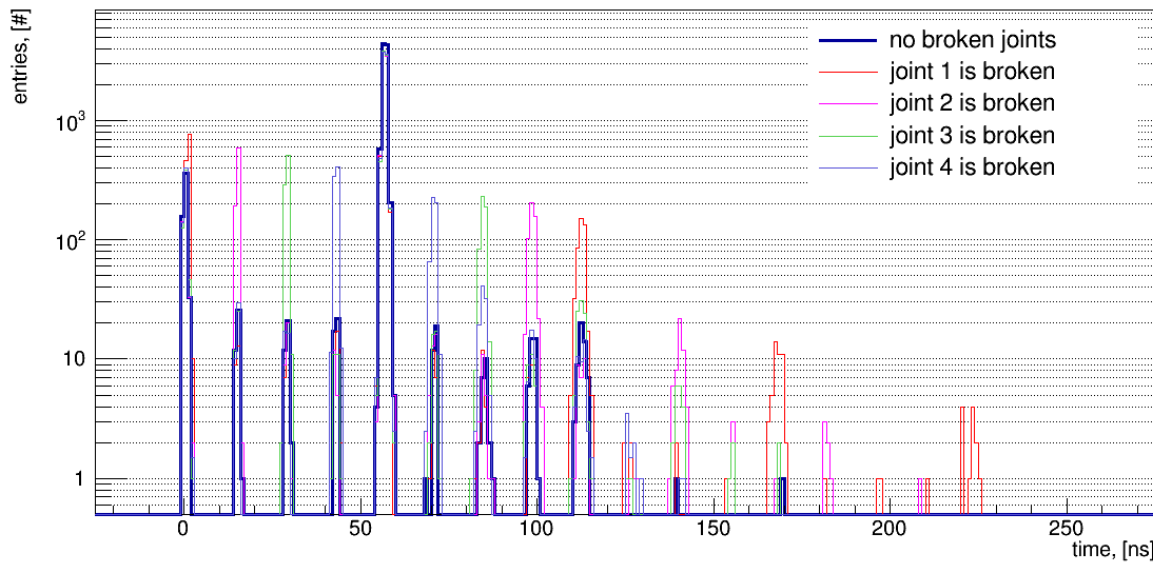
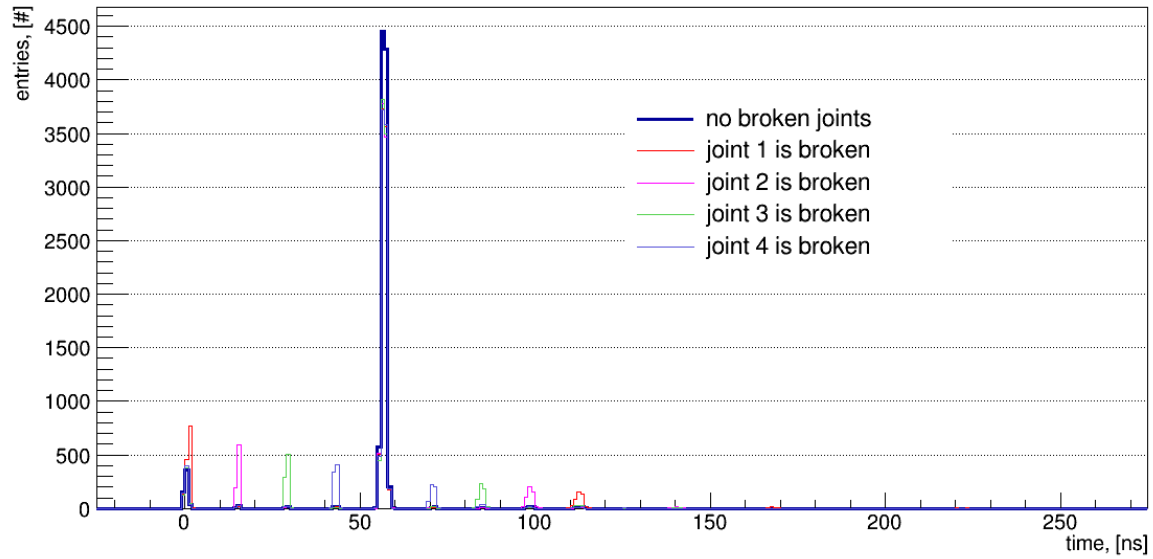
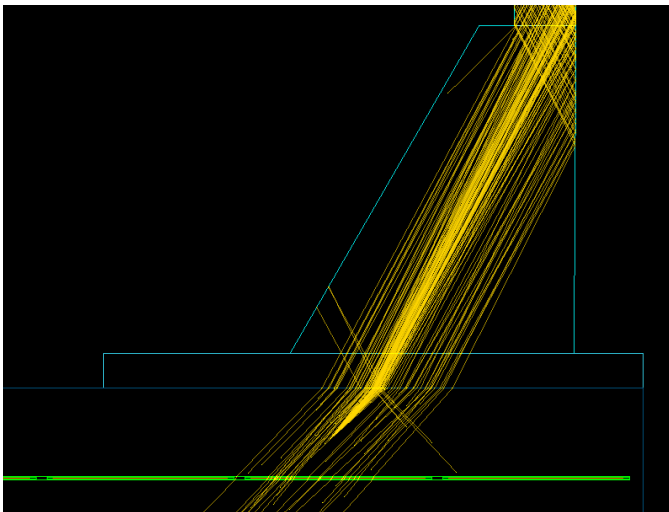
- What else should be considered?
 - Pros of PMT system?
 - Cons of camera?
- Opinions?

Other Configurations from Maria

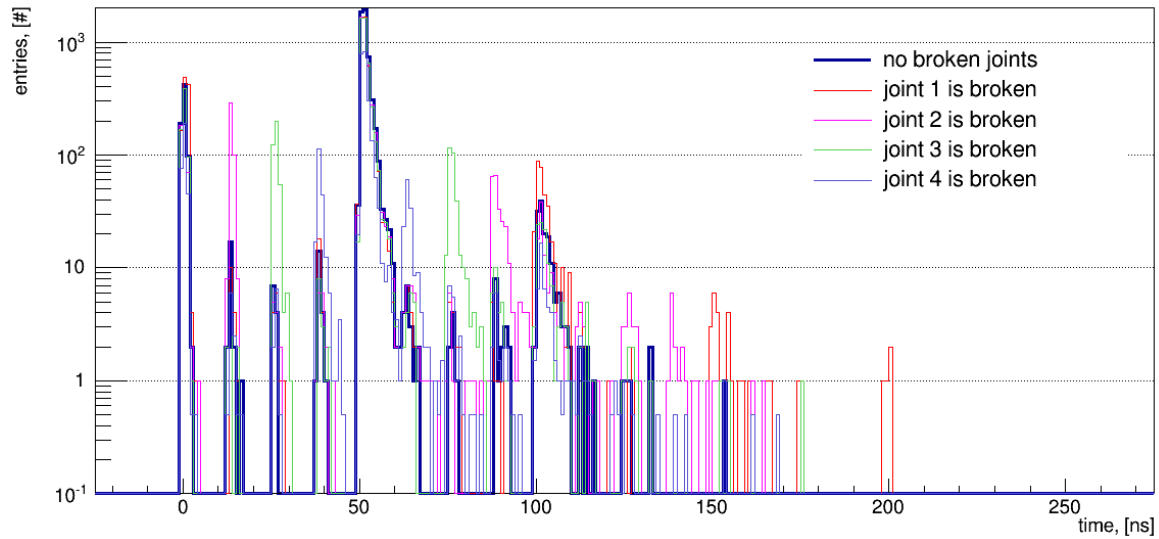
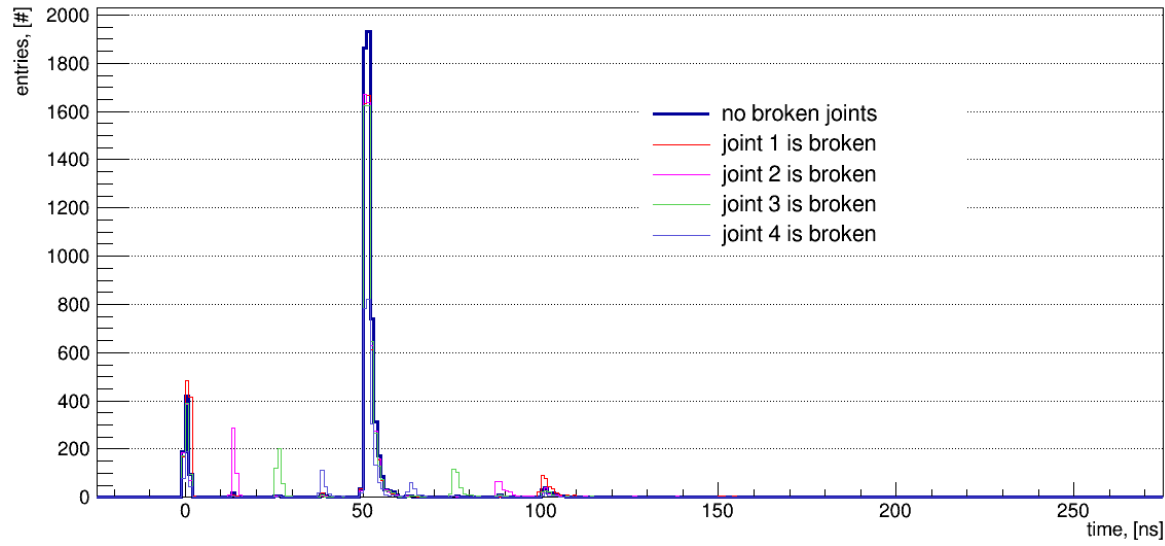
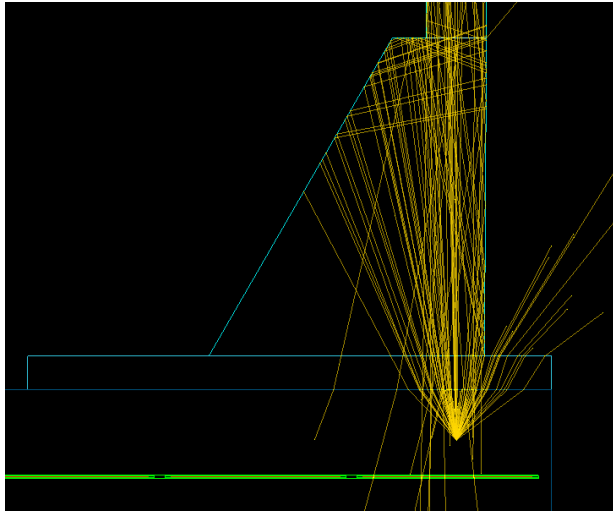
Maria's Studies



Maria's Studies



Maria's Studies



Maria's Studies

