Updates on the dRICH simulation

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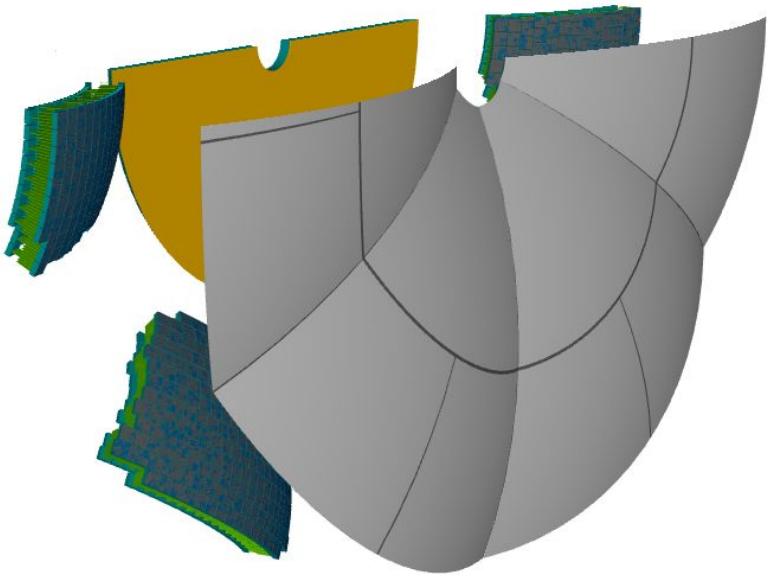
Mirror tiles



Each sector is tiled into 2 segments
Inner segment (from beam line to outwards).
Outer segment is divided into 2 internal halves (almost identical).

The ribs are made of Carbon Fiber.

The parameters for the ribs and the mirror-segment sizes are user defined.

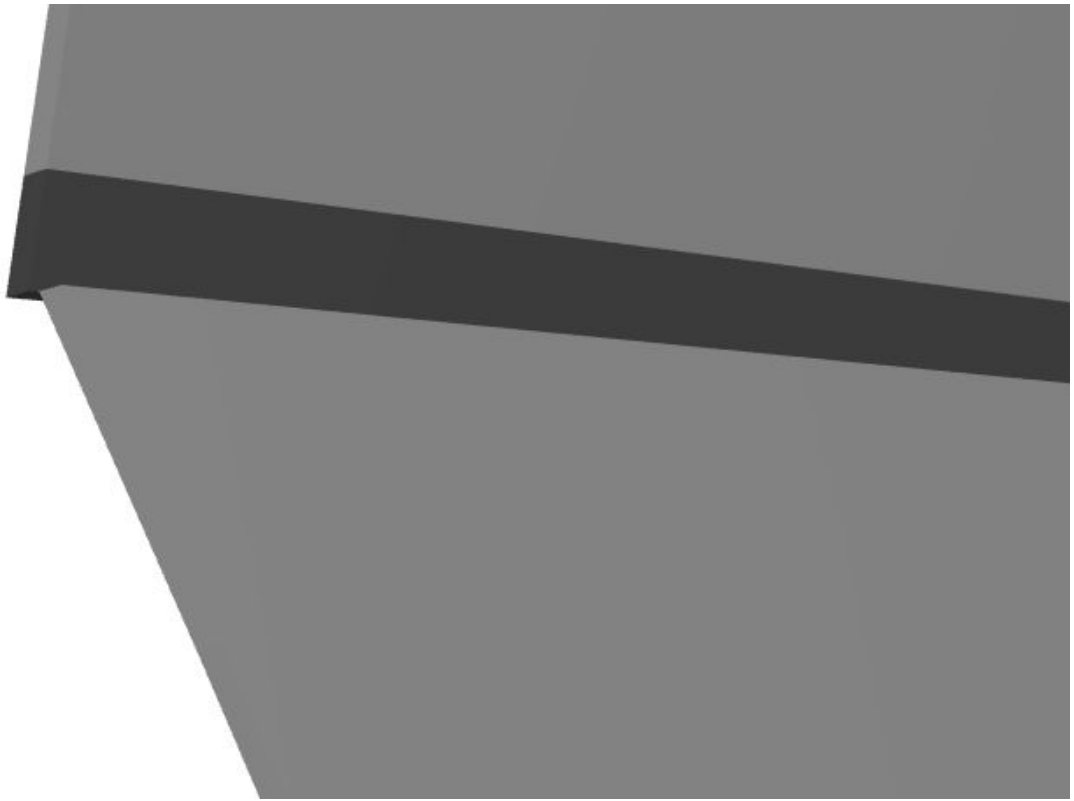
Marked ready for merge!

Sensor phi reduced to 18 degrees!

Mirror tiles

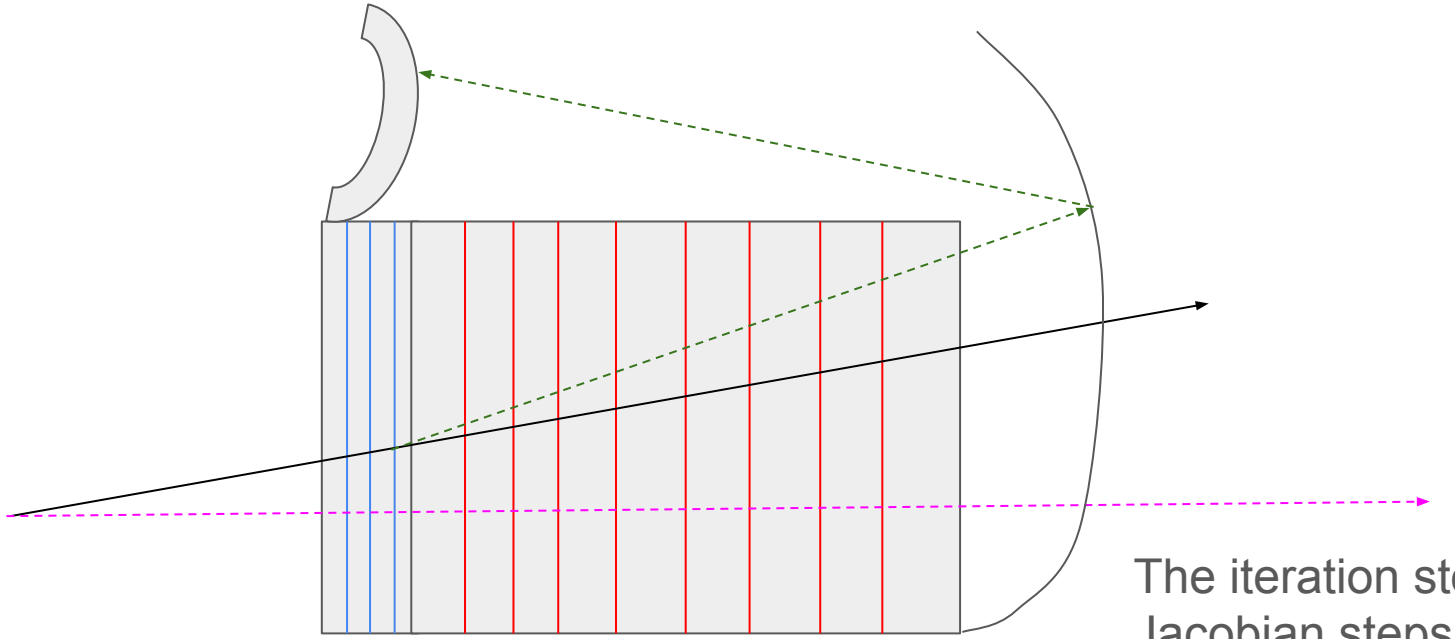
Not 100% accurate.
Some carbon fiber edges are there (~4 mm).
For practical purposes we can ignore.

Mirror radii are same. One can of course implement different radii. IRT requires additional changes.



IRT and Noise

Preliminary studies made. Reducing the zbins of the radiator does not create a continuous noise distribution. (It should not). Reducing bins mean reducing emission point uncertainty



The iteration steps and Jacobian steps are also tested.
It does not change

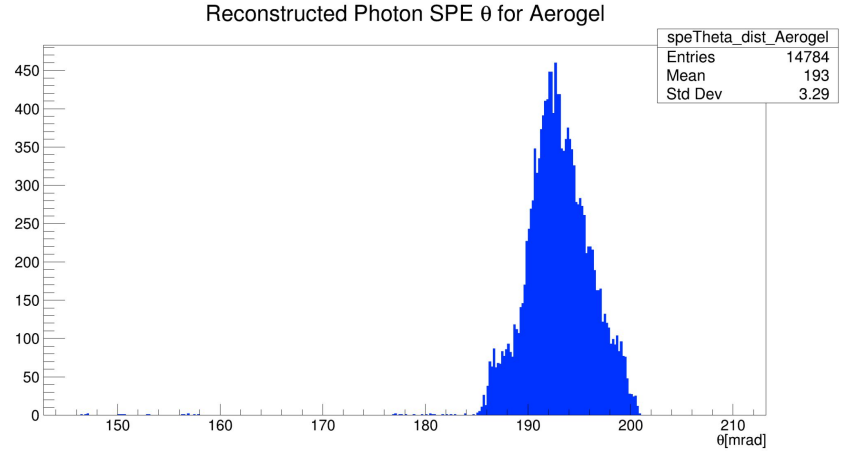
Unanswered questions!

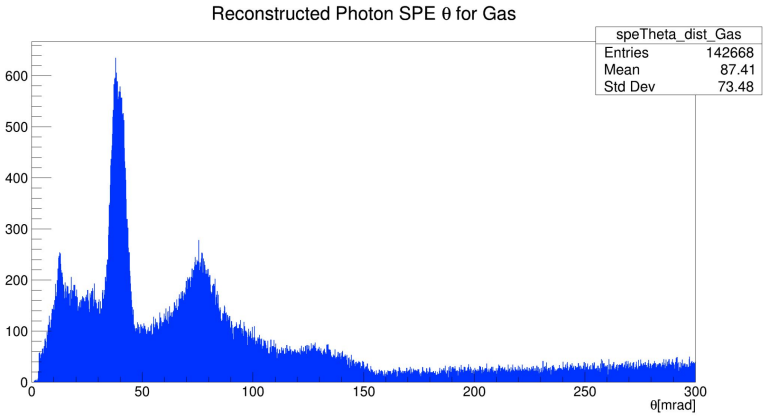
Why is there a peak between aerogel ring and the gas ring?
Is it an acceptance effect?

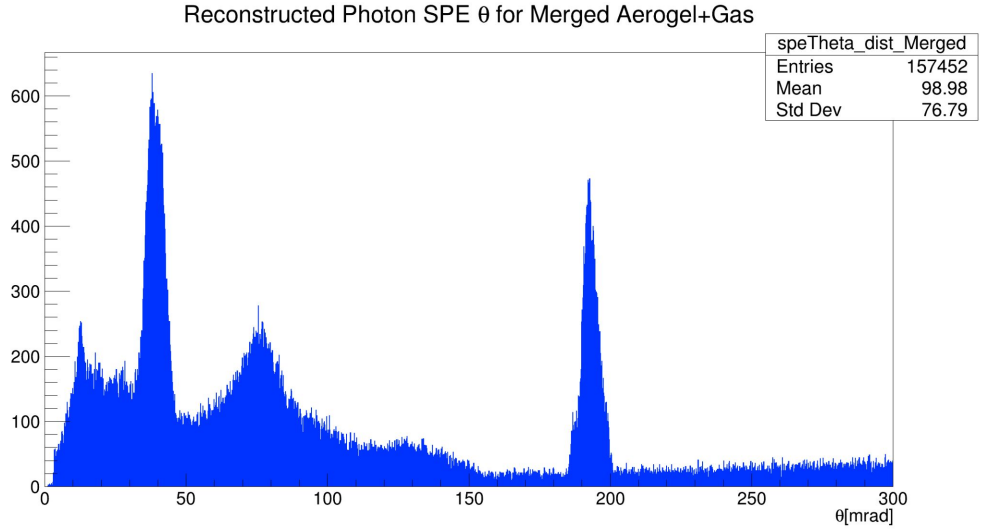
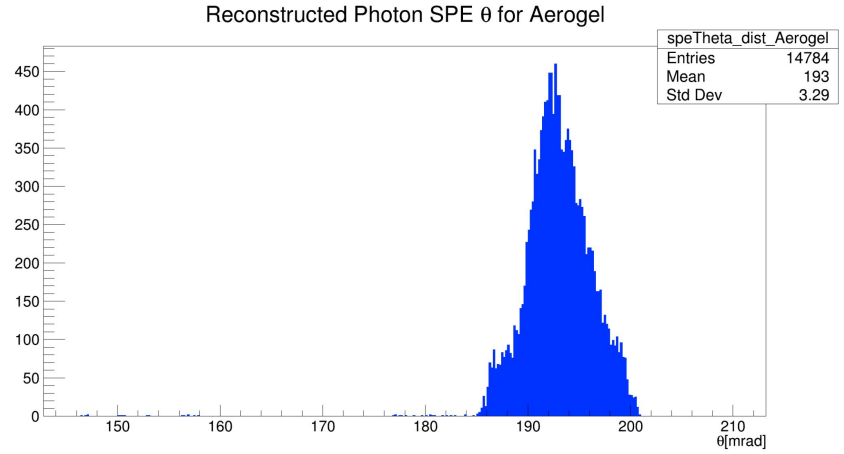
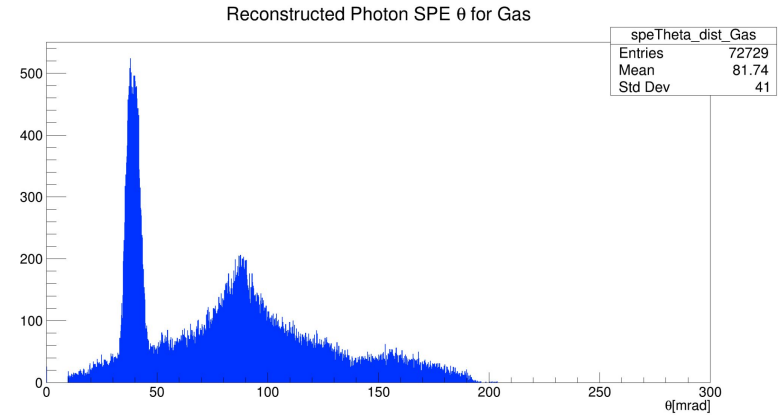
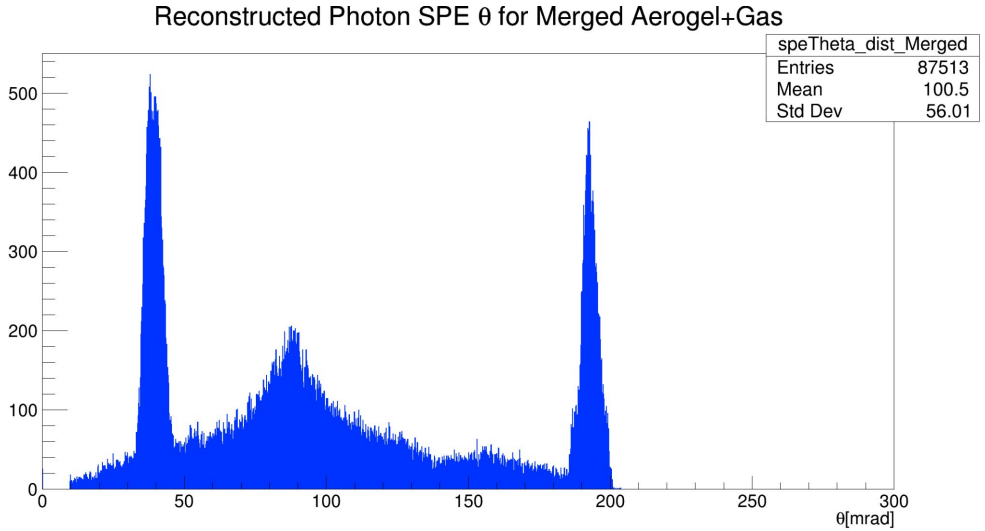
How would the unoptimized focalization play role to larger emission point uncertainty?

Observed fact: gas photons suffers more in smaller pseudo rapidity compared to aerogel (aerogel has smaller emission point uncertainty). Does it mean restricted background distribution?

Aerogel zbins reduced to 2 (Gas 10 bins)







Aerogel+Gas zbins reduced to 2 bins)