



מכון ויצמן למדע
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sTGC test in GIF++ with beam: QS2 Module-1

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The goal for the GIF++ tests

- QS2 stands for “Quadruplet Small” and “2” means the second from the beam pipe, we have all together 3 type of quadruplets in R.
- According to sTGC NSW background rate predictions, based on the real data of SW CSC & TGC from ongoing Run-2, this quadruplet will see the highest rate, namely $\sim 20 \text{ kHz/cm}^2$ at $L=7.5 \times 10^{34}$.
- This quadruplet is the first one in sTGC community which is fully equipped with the final electronics foreseen for the sTGC in NSW.
- It has been tested and validated with the cosmic muons in the lab.
- We'll start the measurements in H8C with a beam on 04.10.2017.
- We would like to move to the GIF++ bunker on 11.10.2017.
- The main goal is to measure the sTGC efficiency vs background rate and the sTGC resolution also vs background rate.

Setup

- Dimensions of the cage:
150x50x150cm, weight \sim 60 kg.
- We have 4 gas layers, each one requires 1 HV feeding, the HV cables are in place in the bunker.
- We'll need one Ethernet cable from the bunker to the electronics racks.
- We would like to stay as close as possible to the source for at least 24 hours, filter scans are required.
- On 18.10 we'll take it out.

