

New beamline variation for rg-f experiment

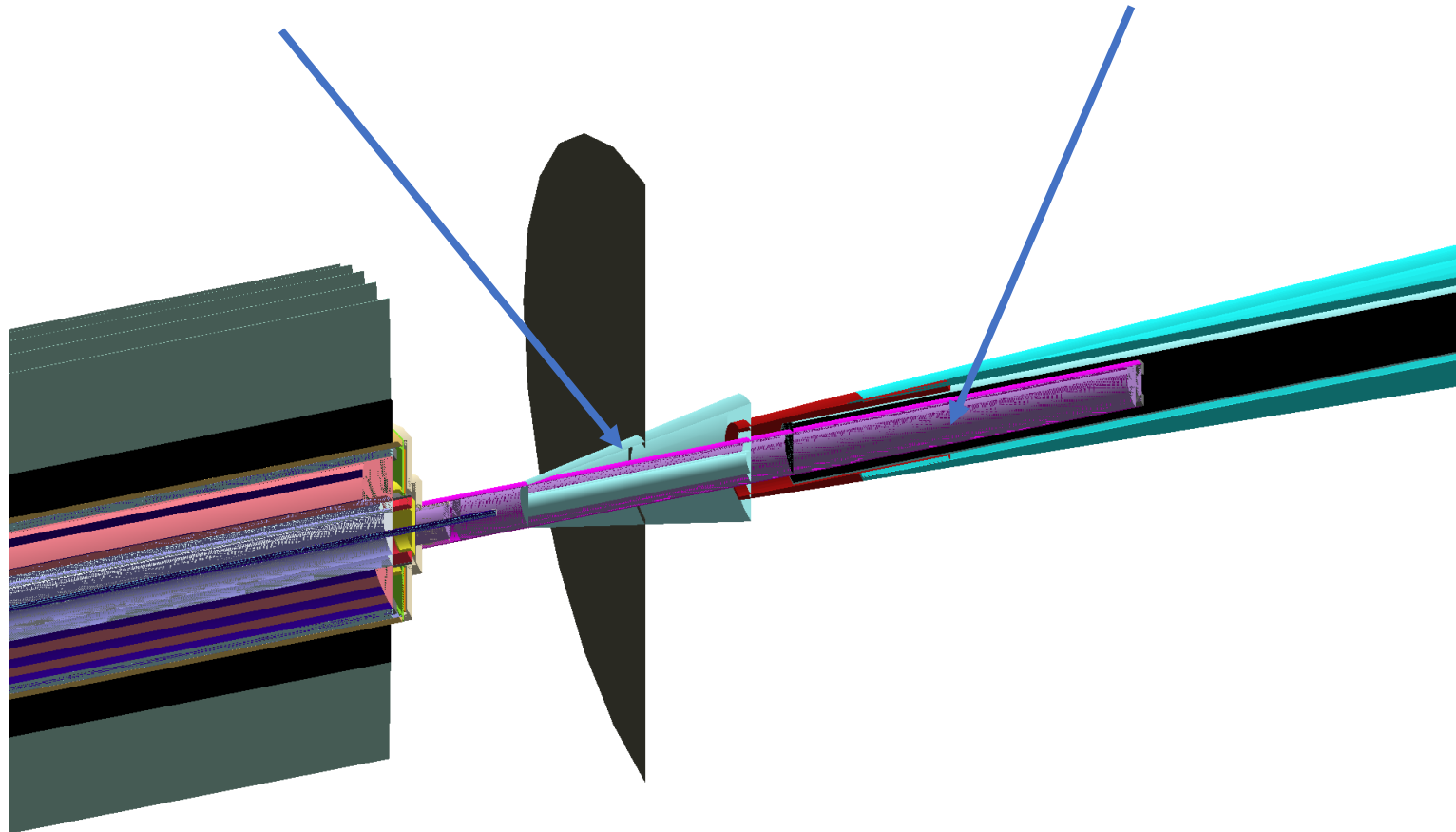
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beamline – current "FTOff" variation for BONuS12 in GEMC

AirPipe is overlapped with the
Helium extension tube of RTPC

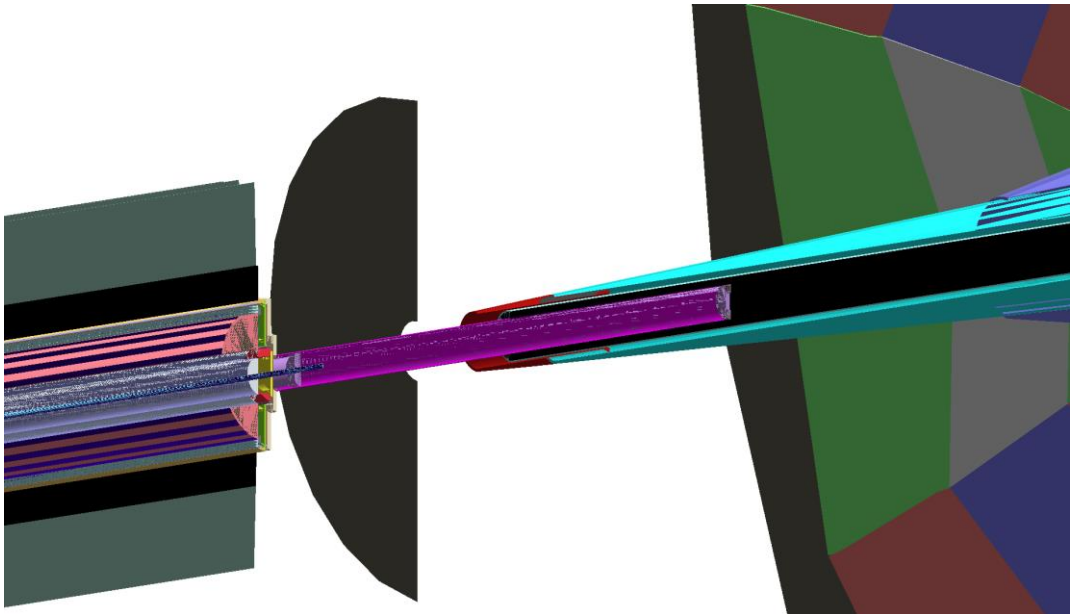
The Helium extension tube of RTPC is overlapped
with the vacuum pipe in the beamline.



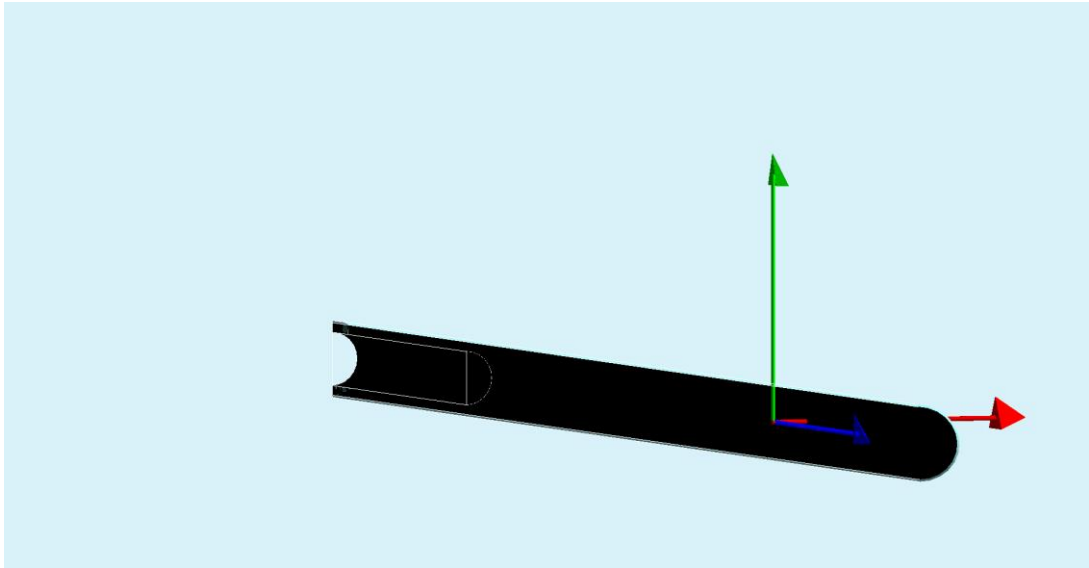
beamline – new variation "rgfFTOff" for BONuS12

- In the variation "rgfFTOff", an empty space is created in the vacuumPipe1 to accommodate the helium extension tube of the RTPC.
- This empty space was created based on the original "FTOff", which identified the shield start position in GEMC.
- Therefore, the size of the space is decided by the radius and the end position of the Helium extension tube, and the shield starts position. The position of it was decided by the z position of the original vacuumPipe1.
- The component "airPipe" will not exist in the rgf experiment, which is controlled in the gcard file. The helium extension tube in RTPC will take the place of the airPipe in GEMC.

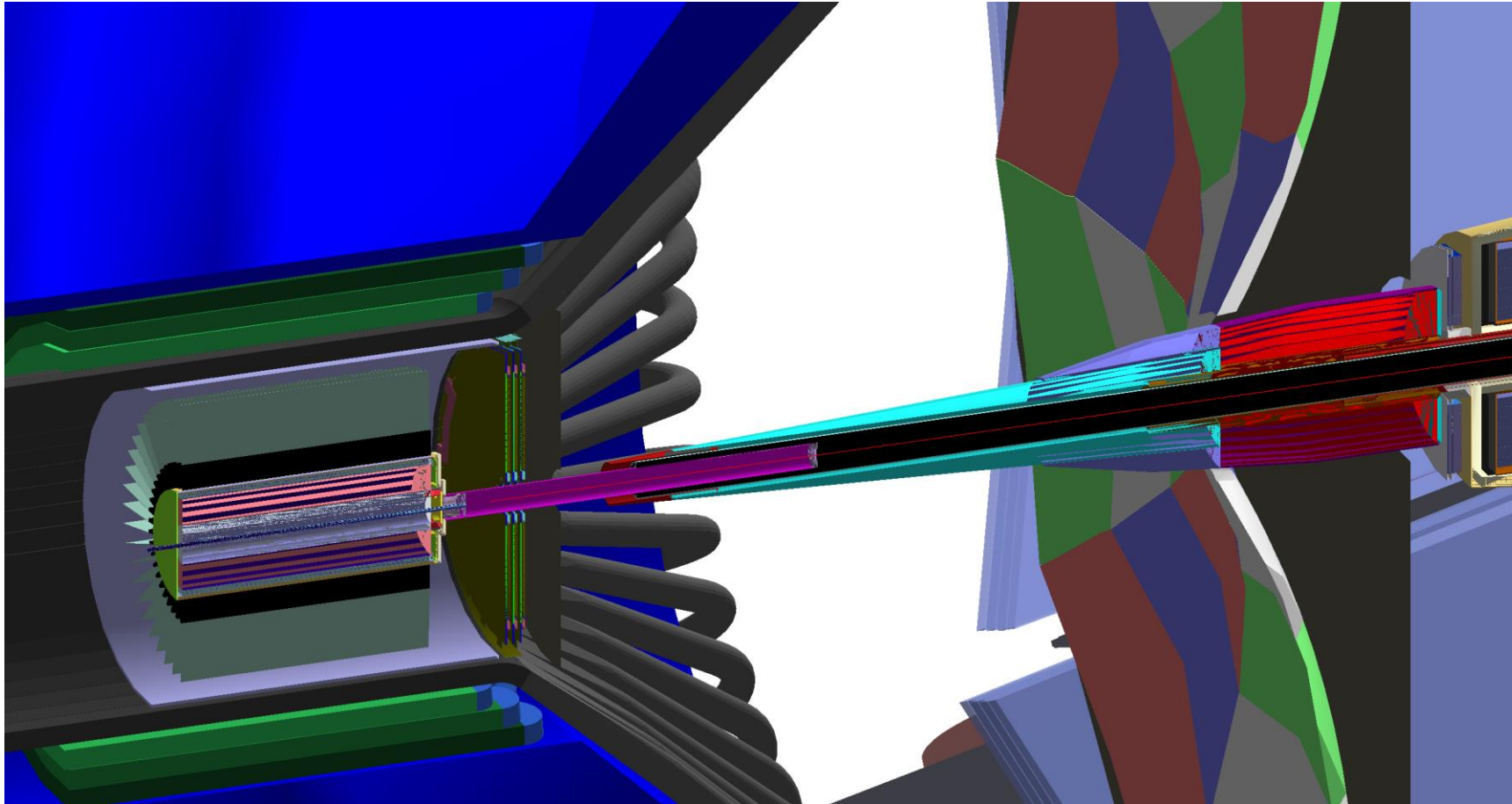
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➔ <detector name="airPipe">      <existence exist="no" />  </detector>
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3	vacuumPip1 for rgf			
4	Component	relative Position(x, y, z) to the center of the mother volume	(rmax-rmin) & Thickness (if available)	Dim(rmin, rmax, zhalf)
5	ori vacuumPipe1	root, (0.0, 0.0, 1457.9)		(0.0., 28.52, 954.9)
6	vacuumInPipe1	vacuumPipe1, (0.0, 0.0, 0.0)		(0.0., 26.924, 954.9)
7				
8	emptyInPipe1_1	root, (0.0, 0.0, 648.6829)		(0.0, 19.81202, 145.6839)
9	emptyInPipe1_2	vacuumPipe1, (0.0, 0.0, -809.2171)		(0.0, 19.81202, 145.6839)
10				
11	vacuumPipe1_rgf	root (0.0, 0.0, 1457.9)		vacuumPipe1 - emptyInPipe1_1
12	vacuumInPipe1_rgf	vacuumPipe1_rgf (0.0, 0.0, 0.0)		vacuumInPipe1 - emptyInPipe1_2
13				
14				
15	shieldStart	z pos of vacuumPipe1	empty pipe start	empty pipe end
16	503	1457.9	502.995	794.3708
17	pipeLength	empty pipe length		
18	954.9	145.6879		
19	snout_end	z pos of empty pipe		
20	794.3658	648.6829		
21				



beamline – new variation "rgfFTOff" for BONuS12



BONuS12 – experiment setup drawing

