

# CHERENKOV DETECTOR CONCEPTUAL IDEA USING ATLAS TRT STRAWS

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LOUIS WITH INPUTS FROM RUTH  
MAY 12TH 2021



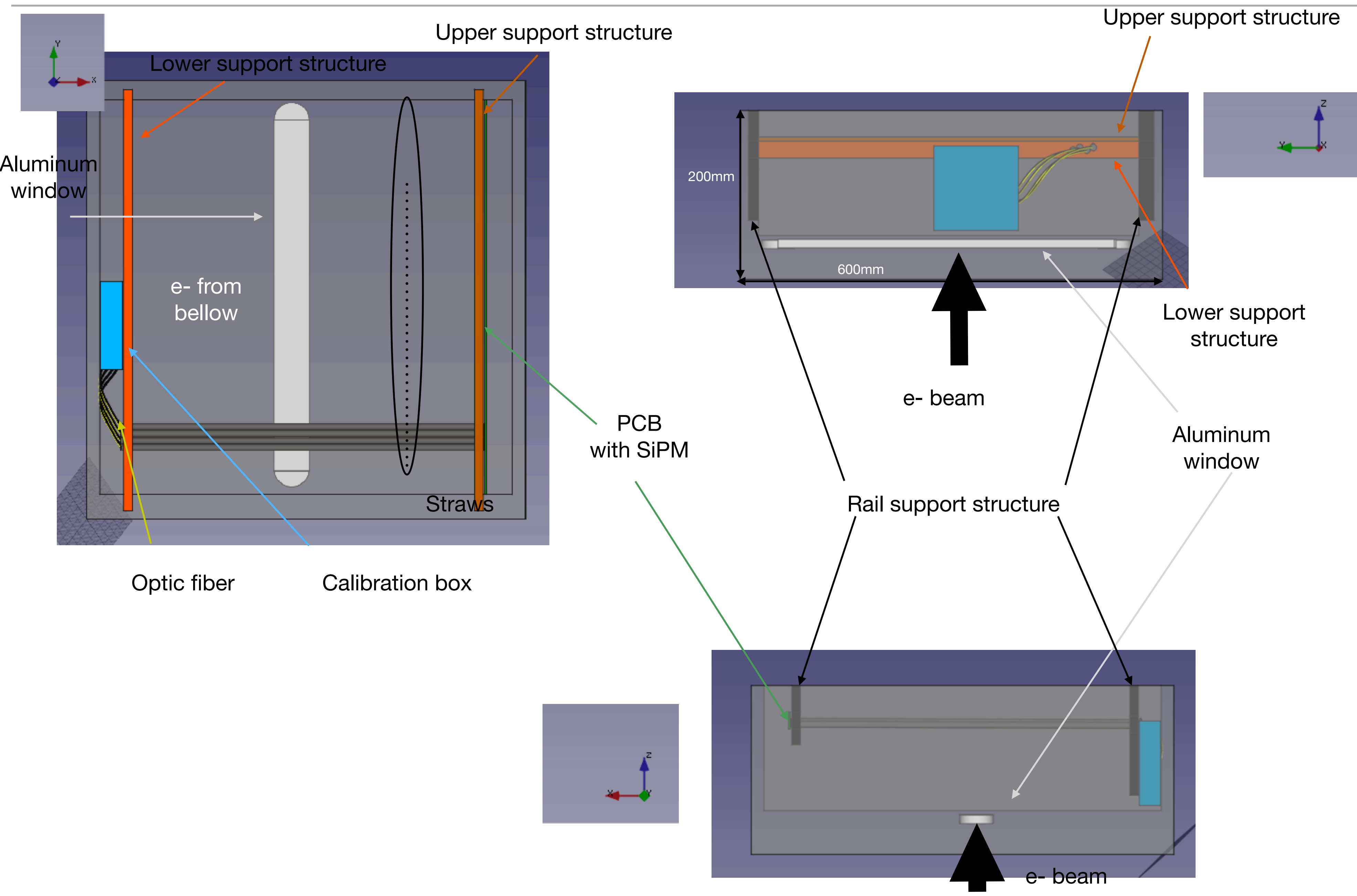
## STRAW DIMENSIONS NEEDED



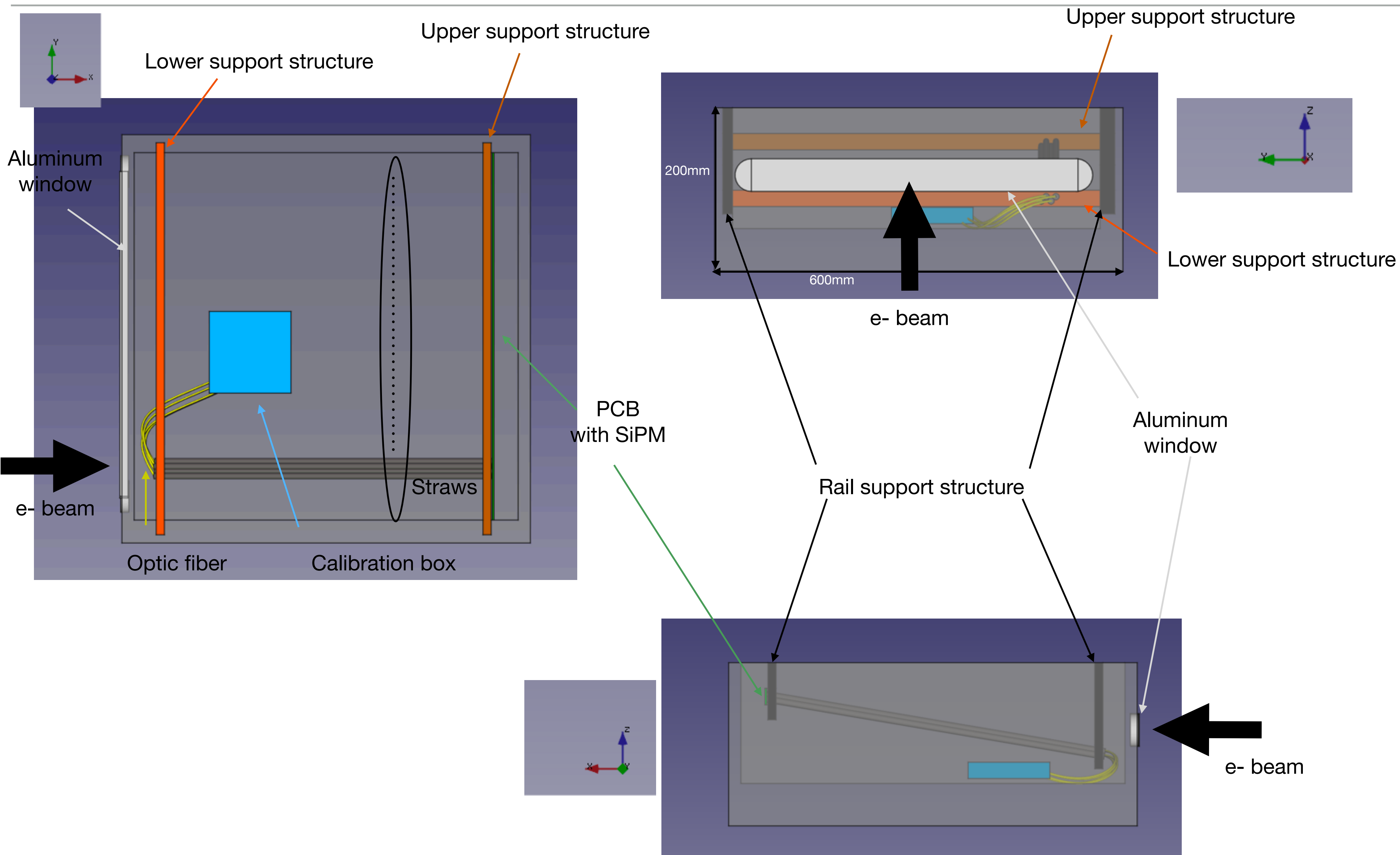
Thanks to Christop Rembser (CERN ATLAS TRT) and Neil Dixon (CERN detector group), we received 182 straws from ATLAS TRT that should have been installed in end-cap modules that were never constructed.



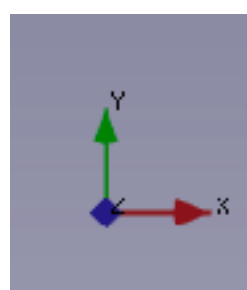
## CHERENKOV DETECTOR CONCEPTUAL IDEA (STRAWS PERPENDICULAR TO THE BEAM)



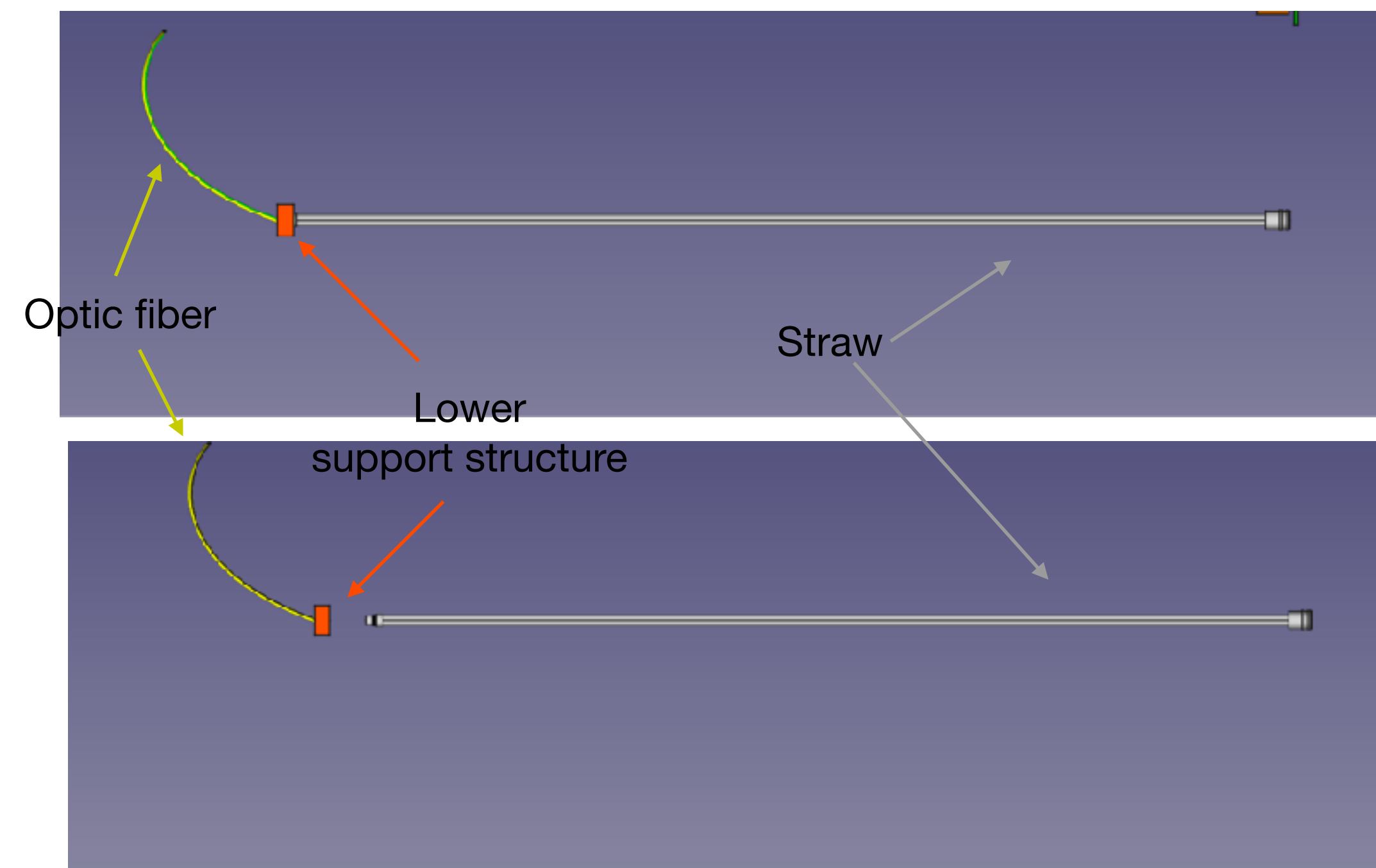
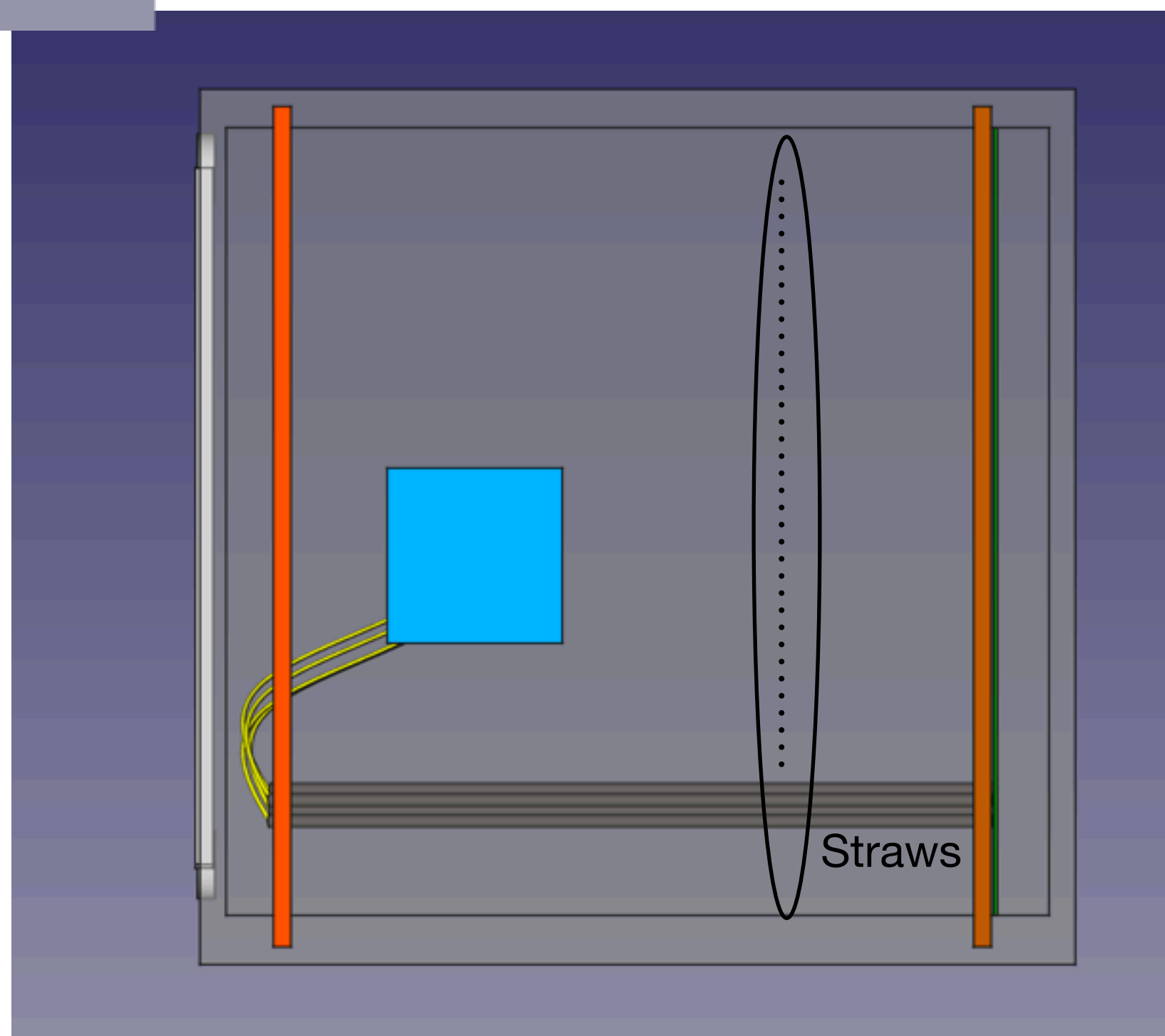
## CHERENKOV DETECTOR CONCEPTUAL IDEA (STRAWS TILTED)



## SUPPORT STRUCTURE FROM THE SMALL CONNECTOR SIDE



Lower support structure

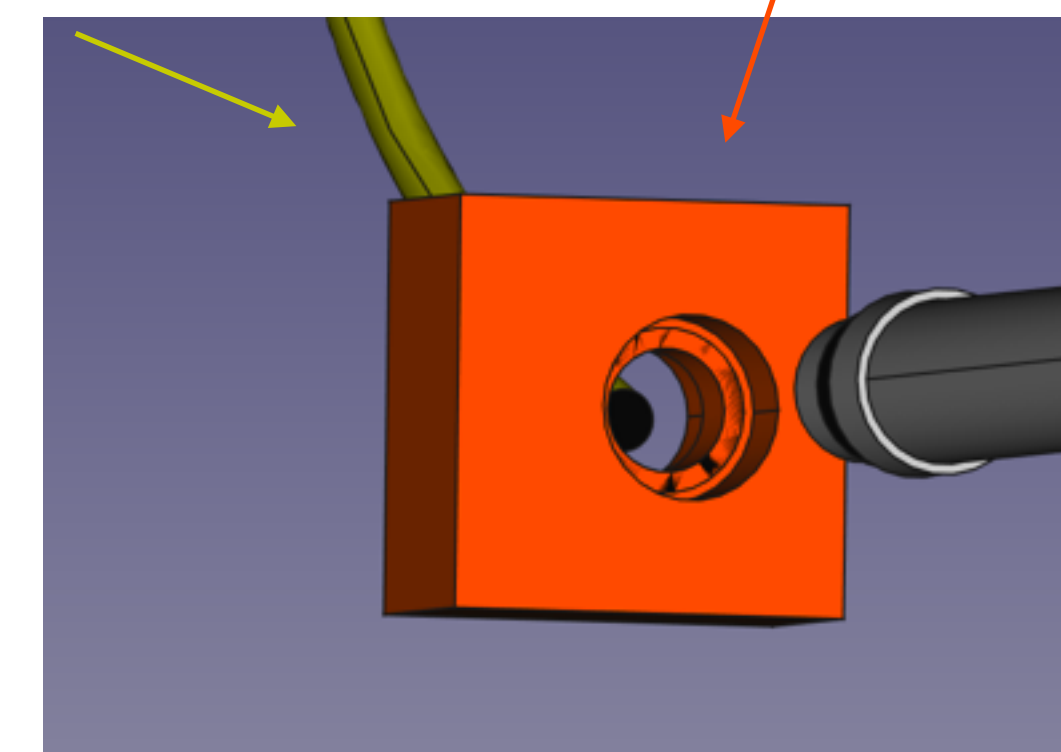


Lower support structure

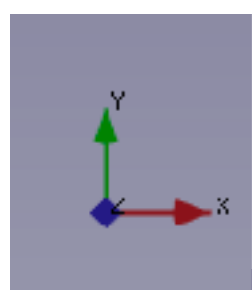
Direction of the straw in reality



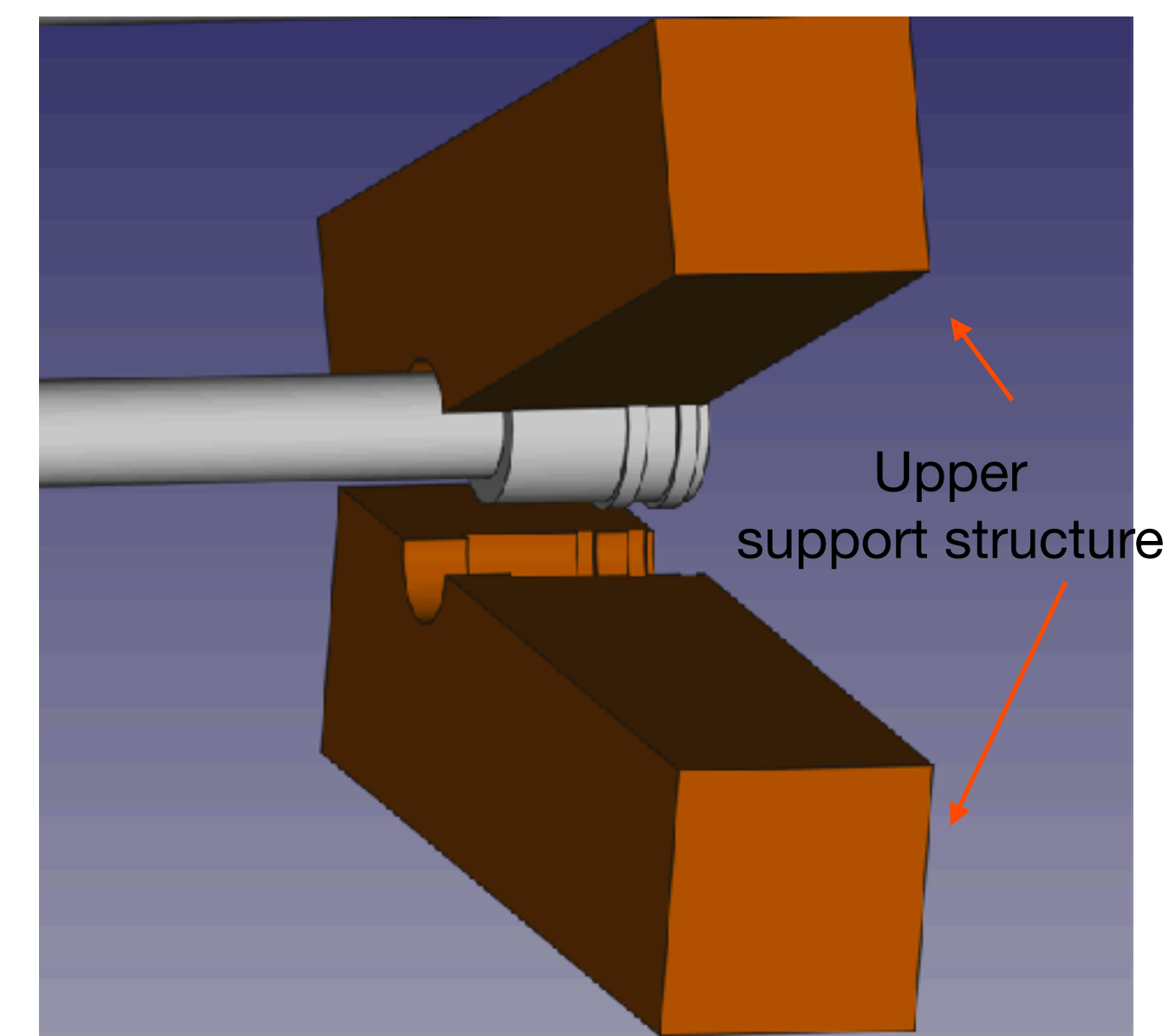
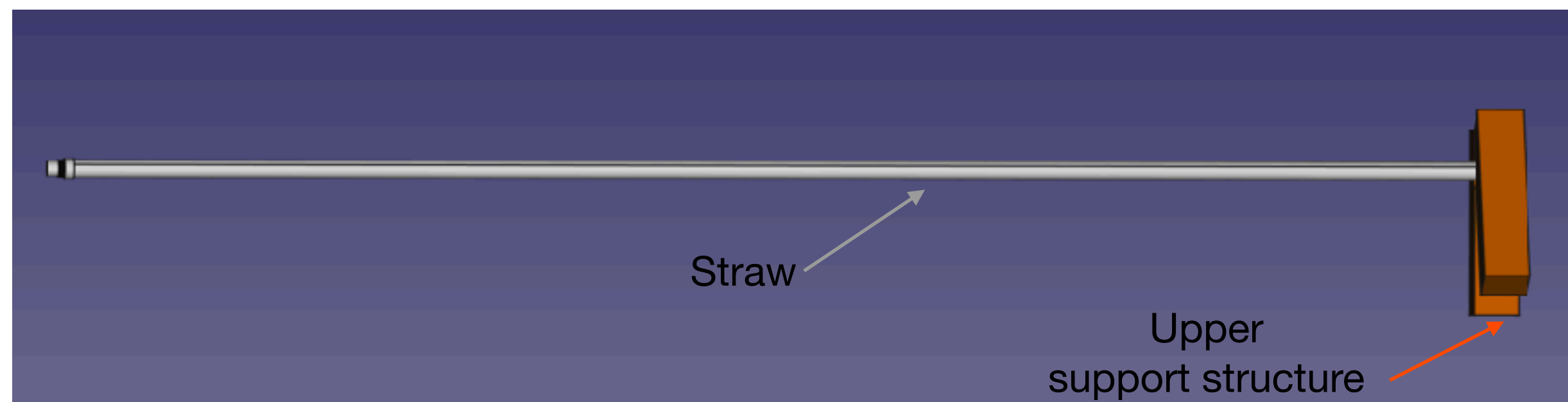
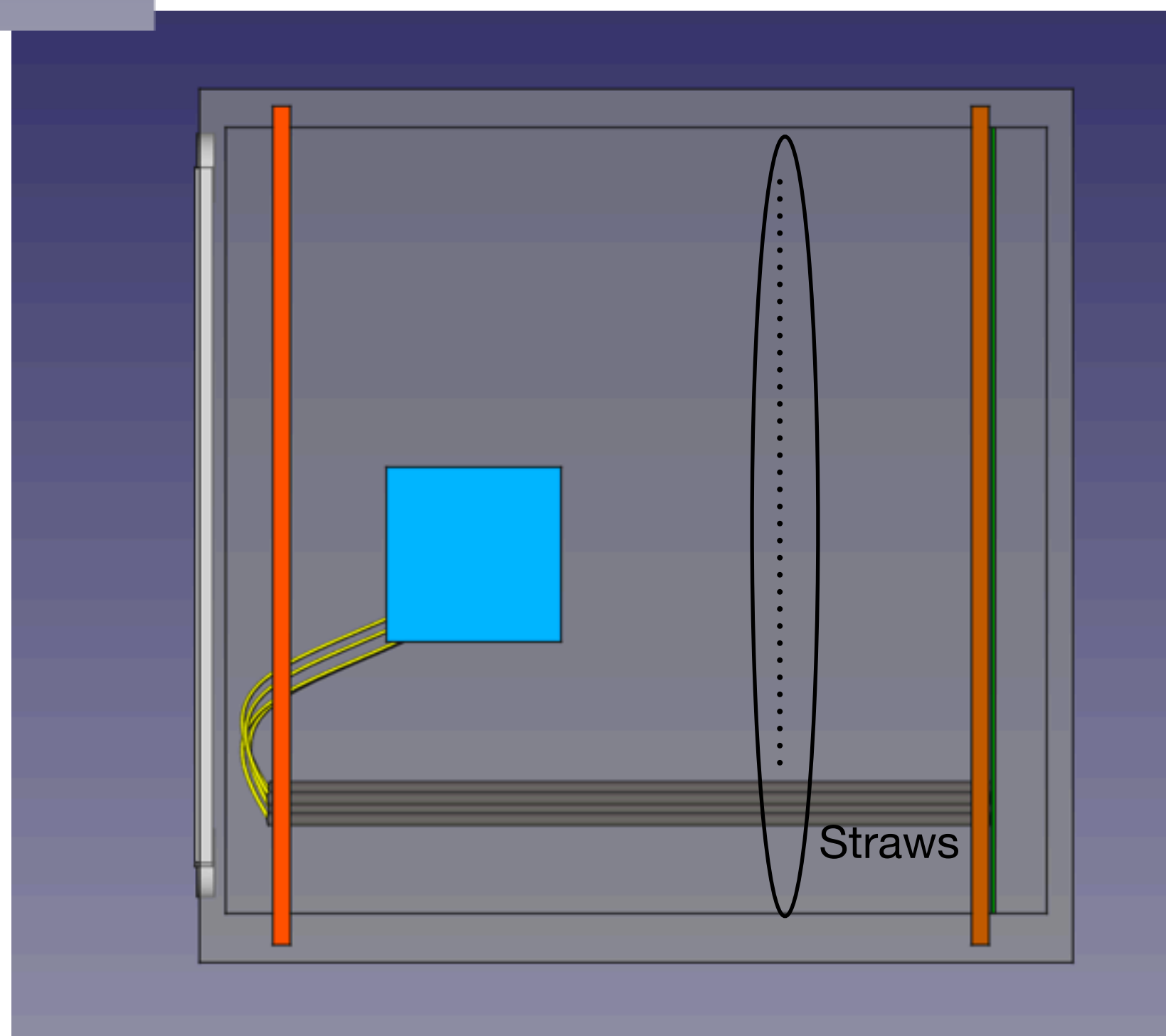
Optic fiber



## SUPPORT STRUCTURE FROM THE LARGE CONNECTOR SIDE



Upper support structure

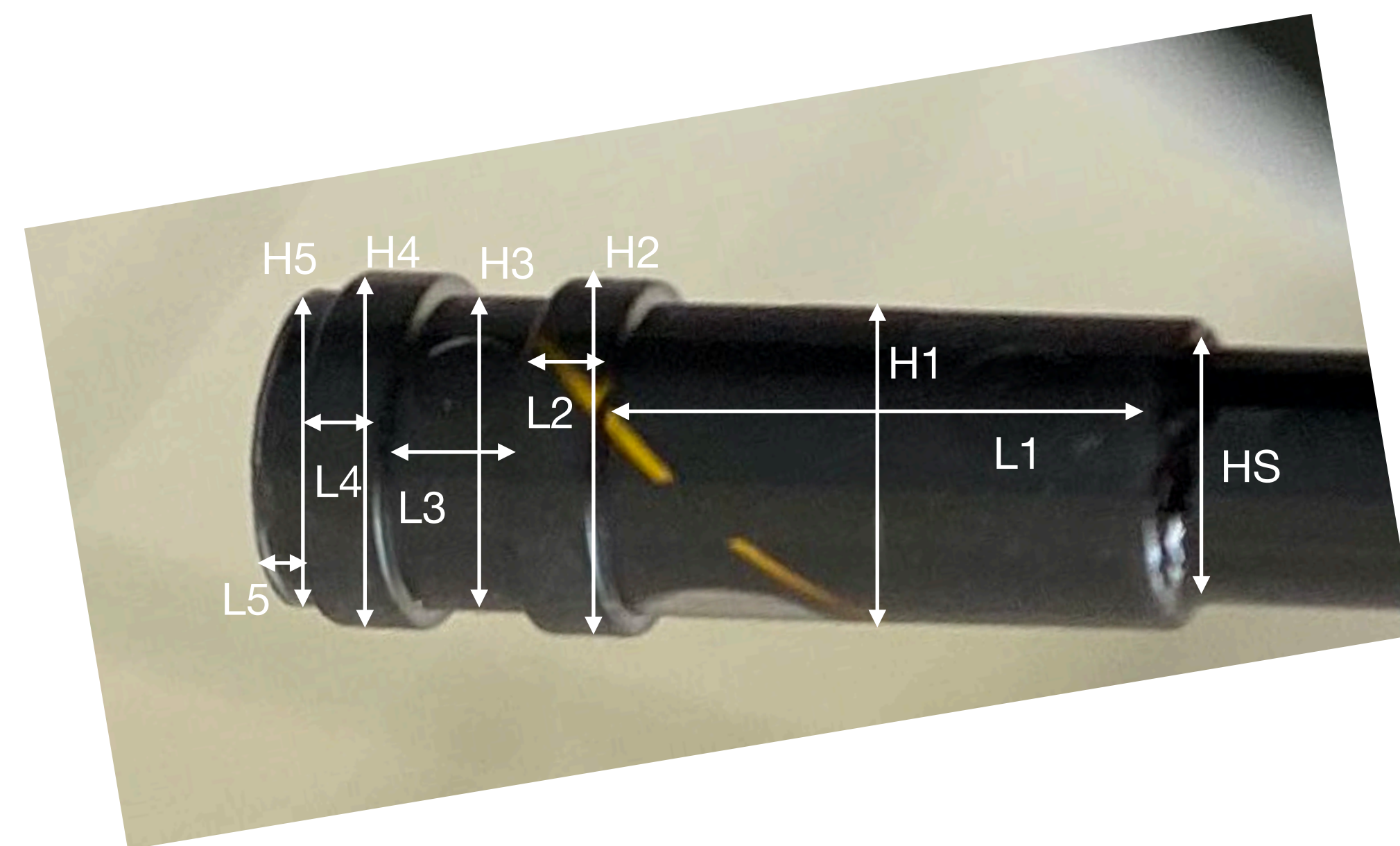
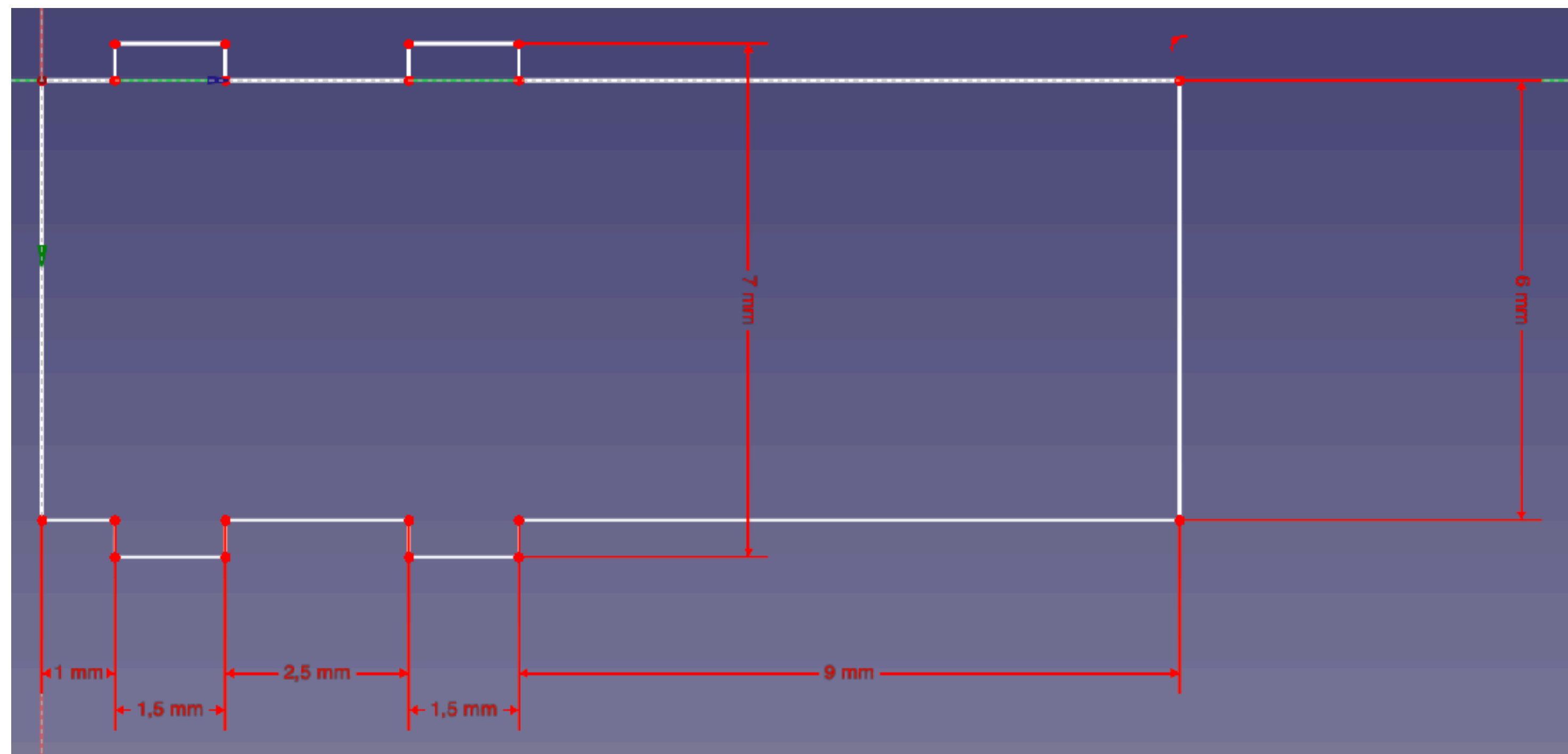


Direction of the straw

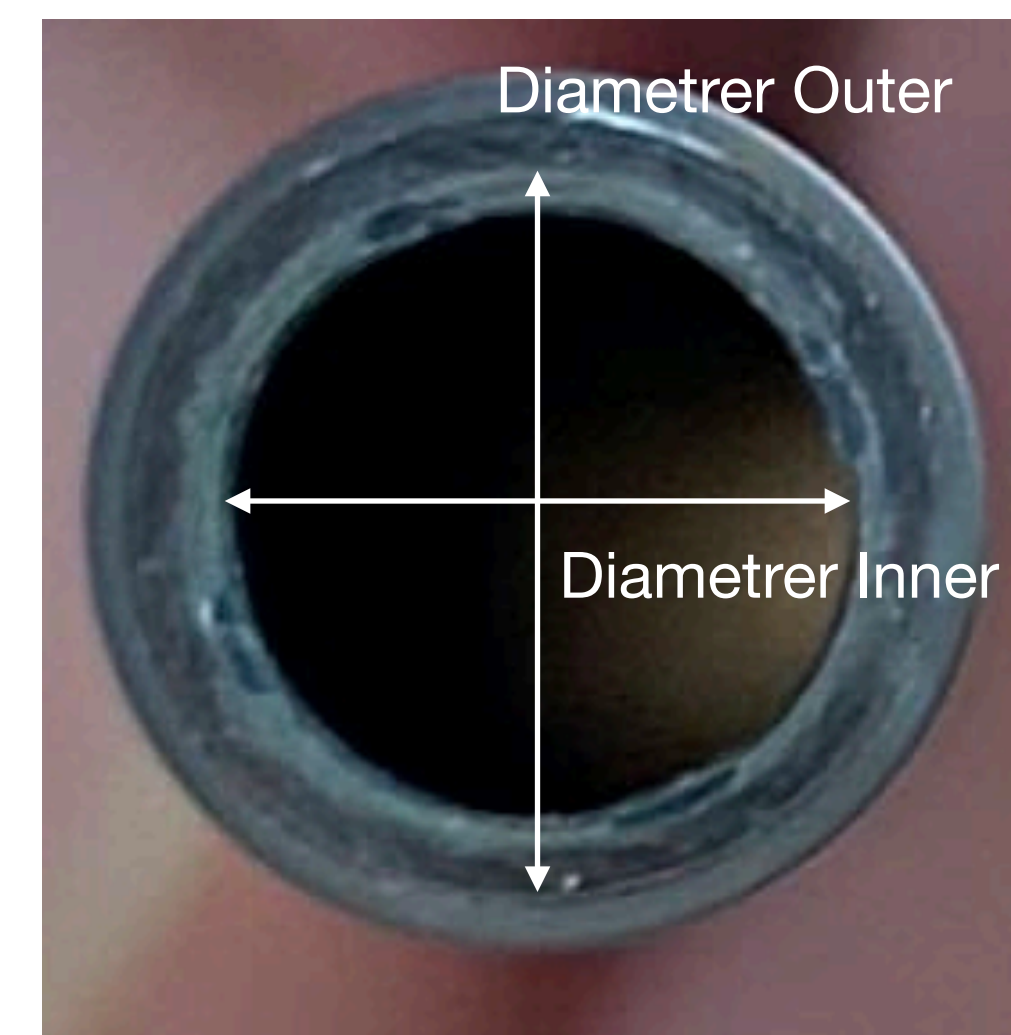


Structure would then be closed and maintained together

## LARGE CONNECTOR SIDE DIMENSIONS NEEDED

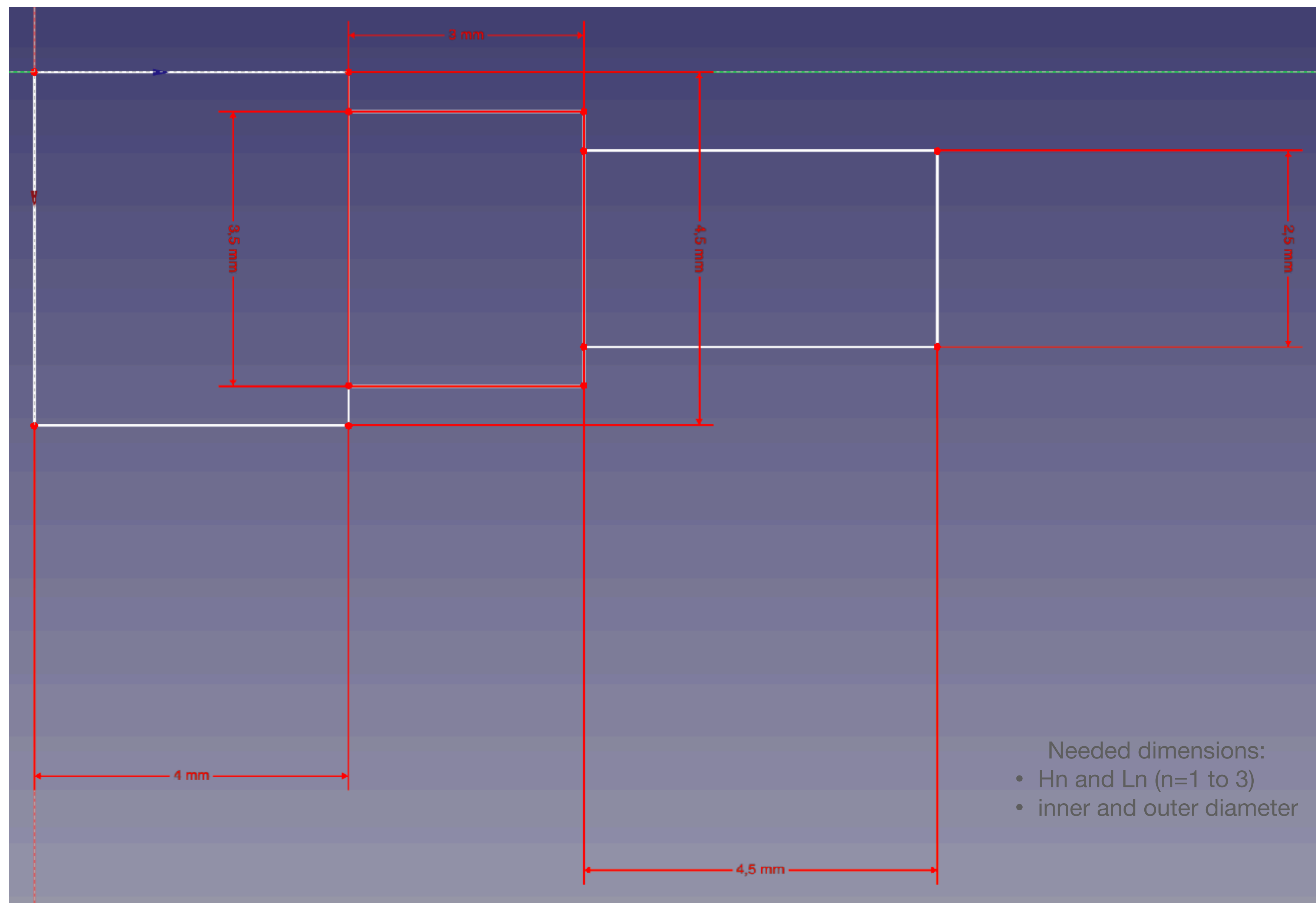


- Needed dimensions:
- $H_n$  and  $L_n$  ( $n=1$  to  $5$ )
  - inner and outer diameter

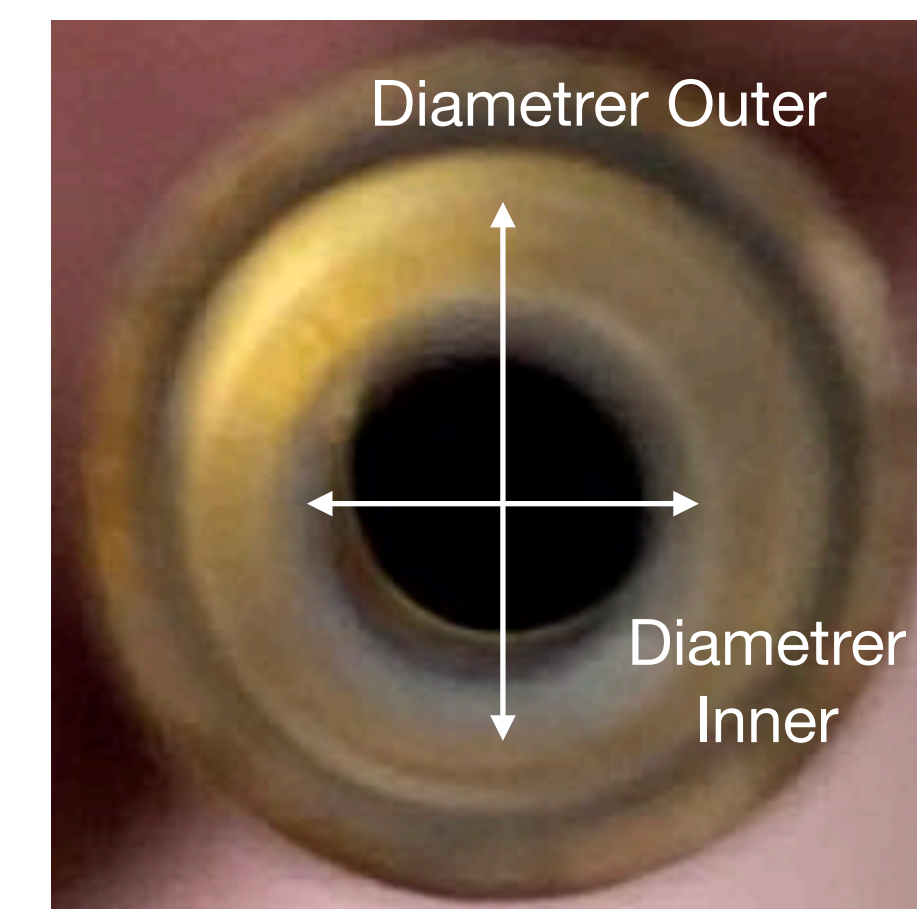
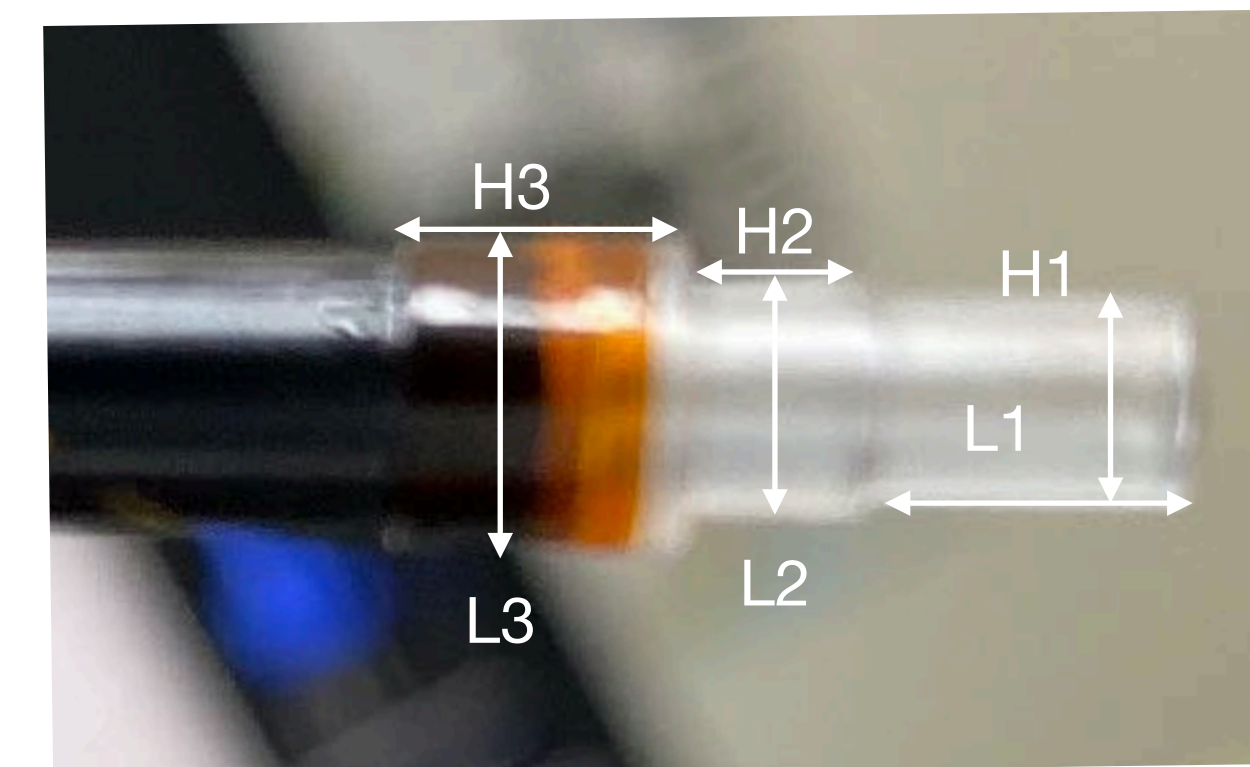




## SMALL CONNECTOR SIDE DIMENSIONS NEEDED



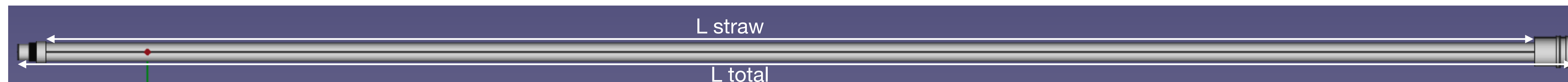
- Needed dimensions:
- $H_n$  and  $L_n$  ( $n=1$  to 3)
  - inner and outer diameter





## STRAW DIMENSIONS NEEDED

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Inner and outer diameter of straw

Needed dimensions:

- Straw length from connector to connector.
- Total length.
- inner and outer diameter.