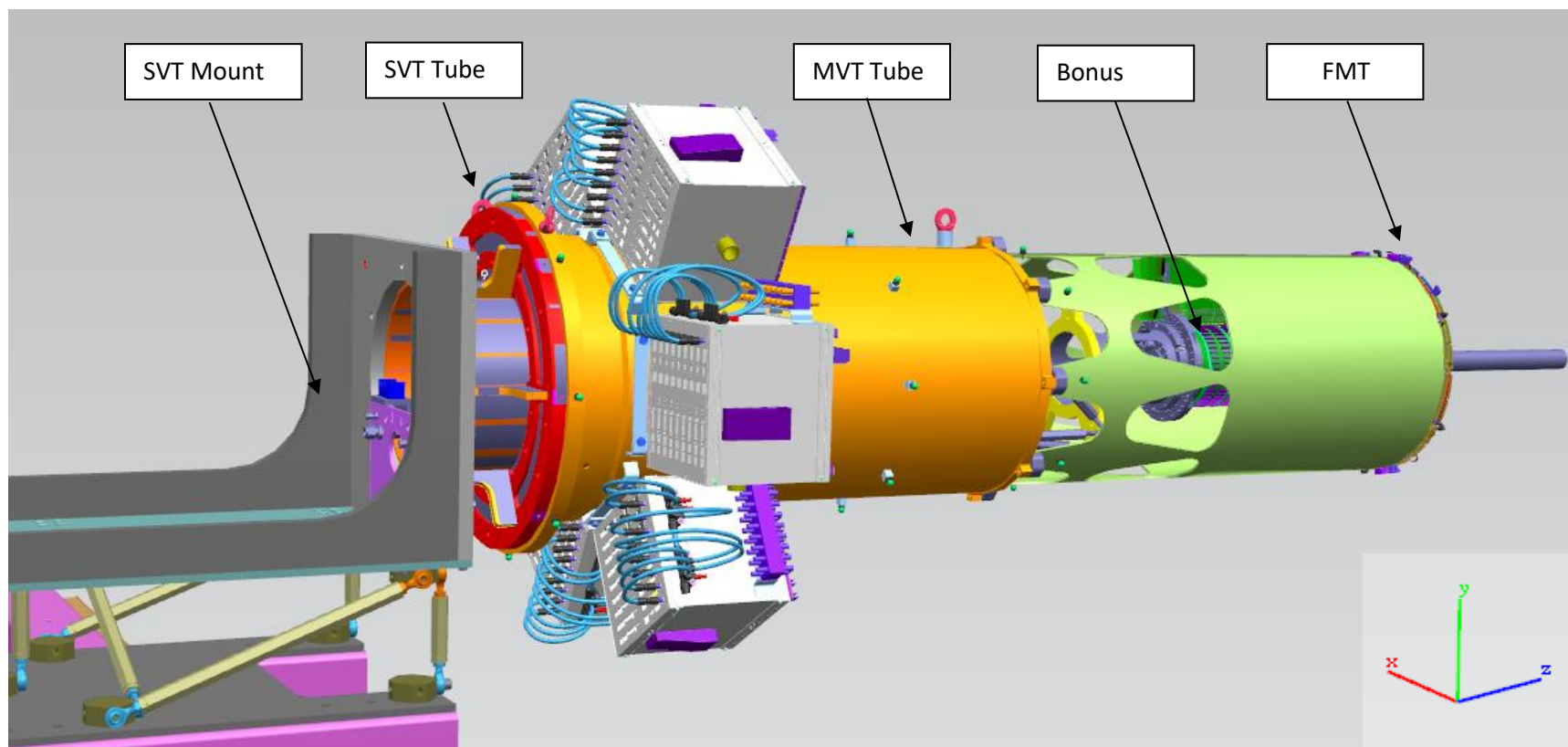


# Bonus12 Survey and Alignment Procedure

December 5, 2019

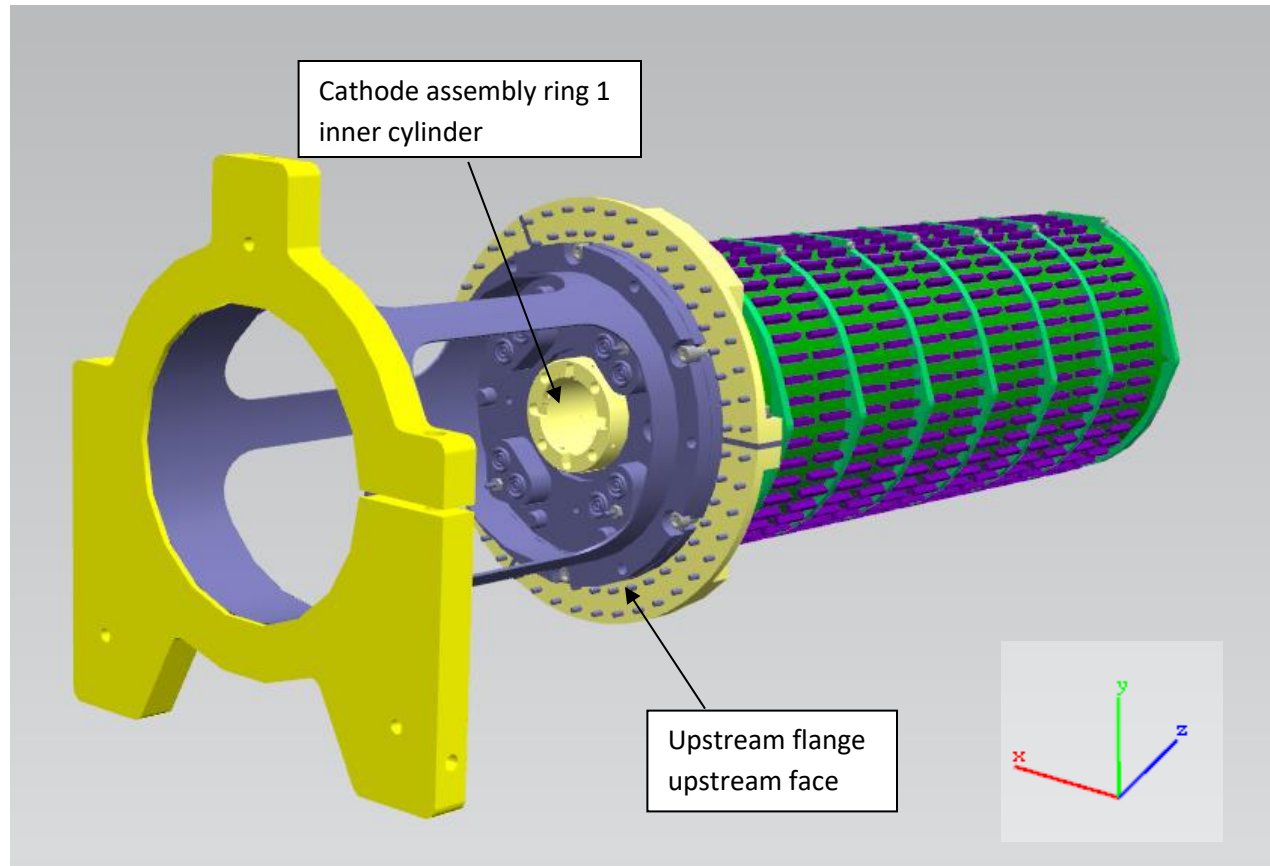
Bob Miller, Cyril Wiggins, Chris Gould

The Bonus 12 detector will be surveyed and aligned at different stages of its assembly and installation in the Hall.

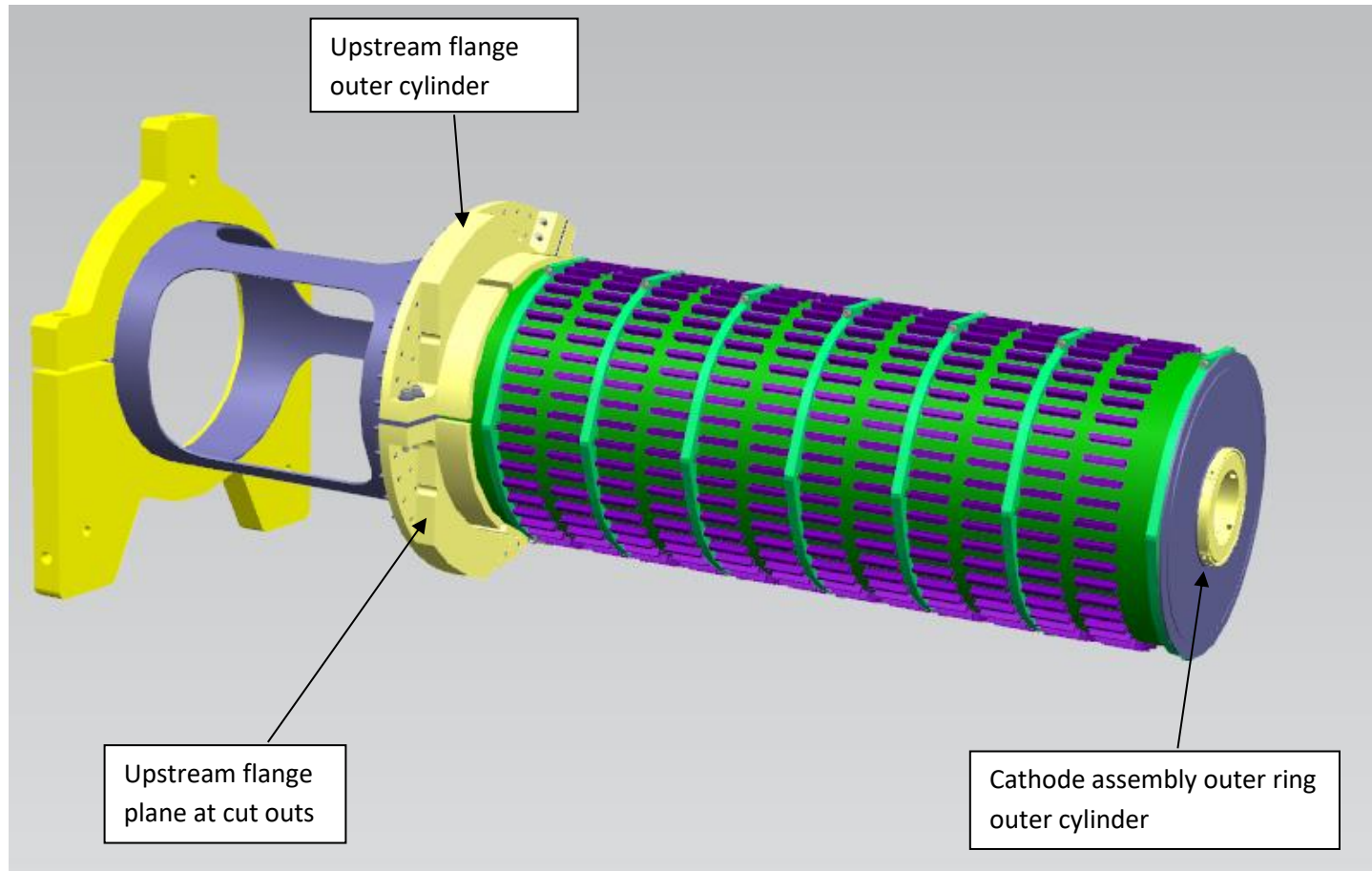


### Survey 1: Detector without Target

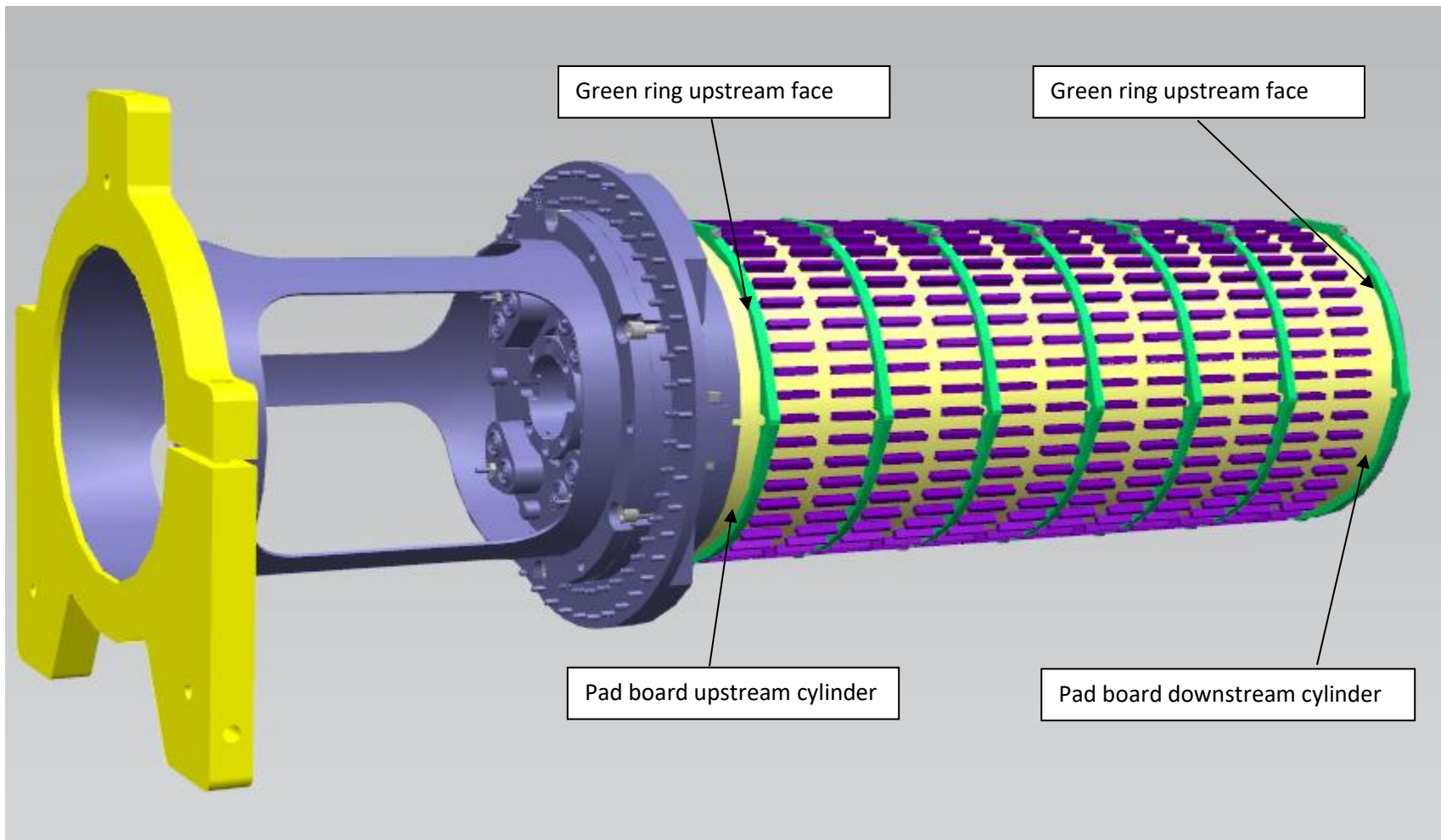
- Cathode assembly ring 1
  - Inner cylinder
- Upstream flange
  - Z location of upstream flange face



- Upstream flange
  - Outer cylinder
  - Plane at cut outs to measure roll
- Cathode assembly outer ring
  - Outer cylinder

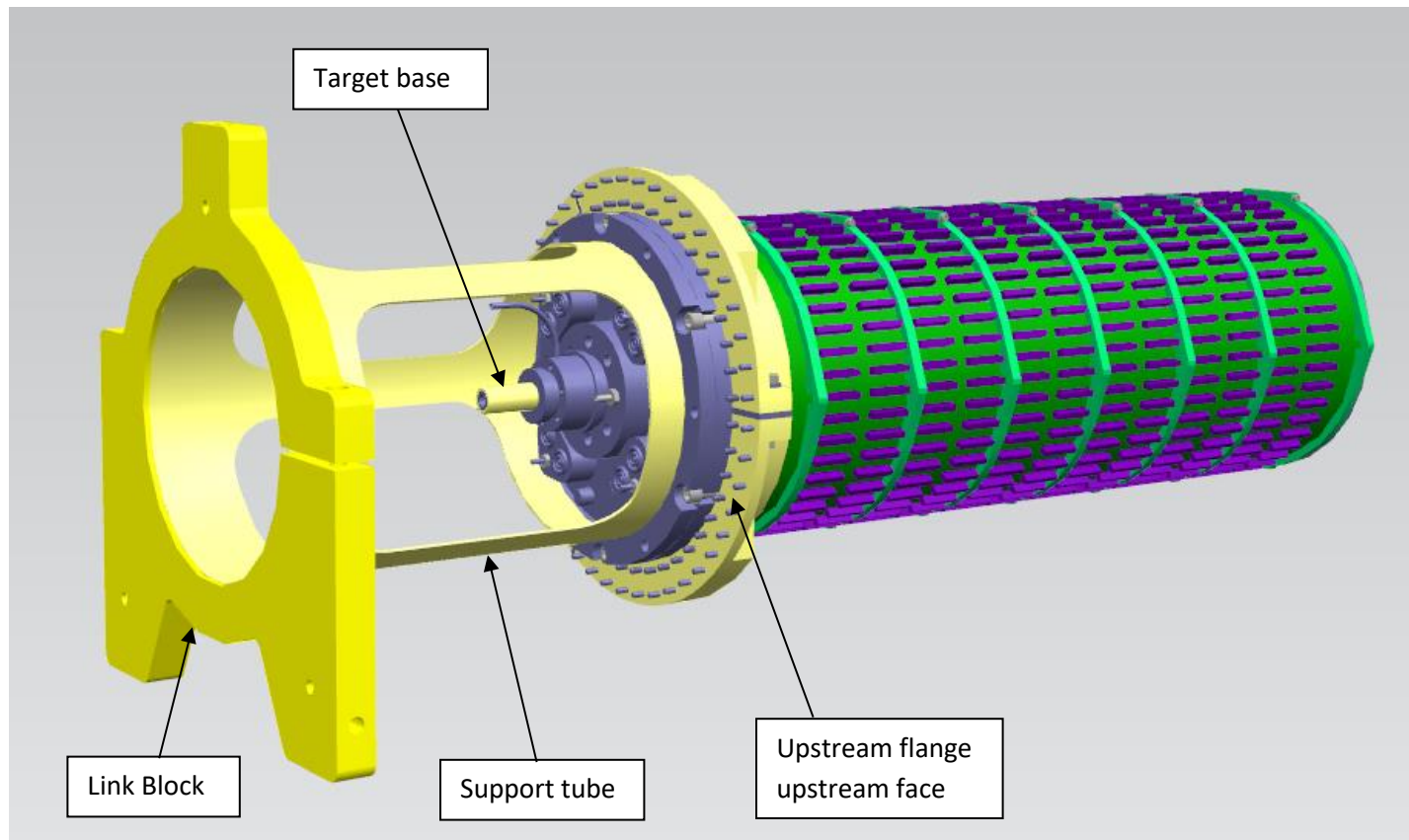


- Pad board
  - Upstream cylinder
  - Downstream cylinder
  - Green ring upstream faces



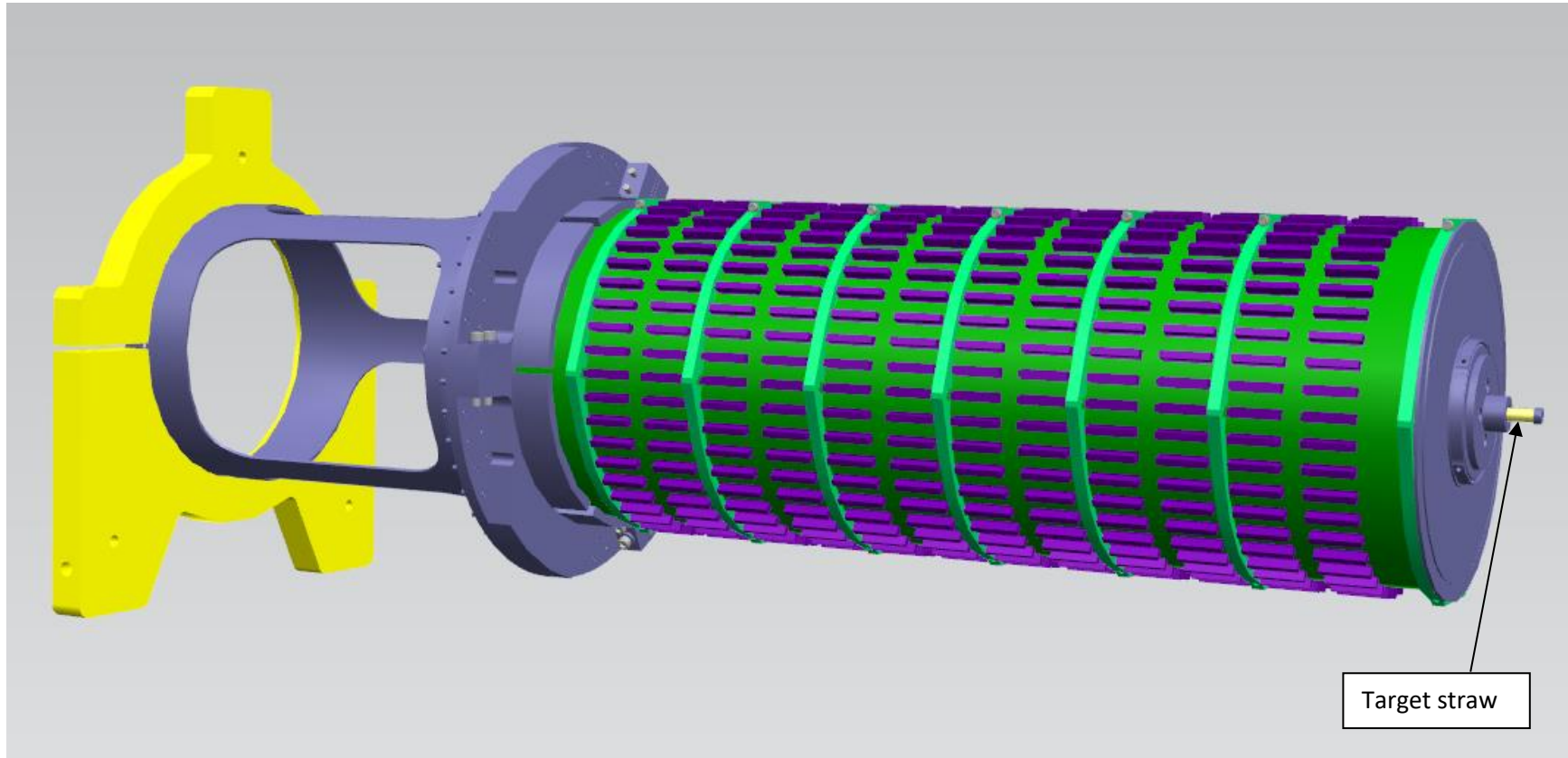
### Survey 2: Fiducialize Link Block to Target Straw

- Target base
  - Outer cylinder
- Support tube
  - Survey points
- Link Block
  - Survey points





- Target Straw
  - Outer cylinder of straw

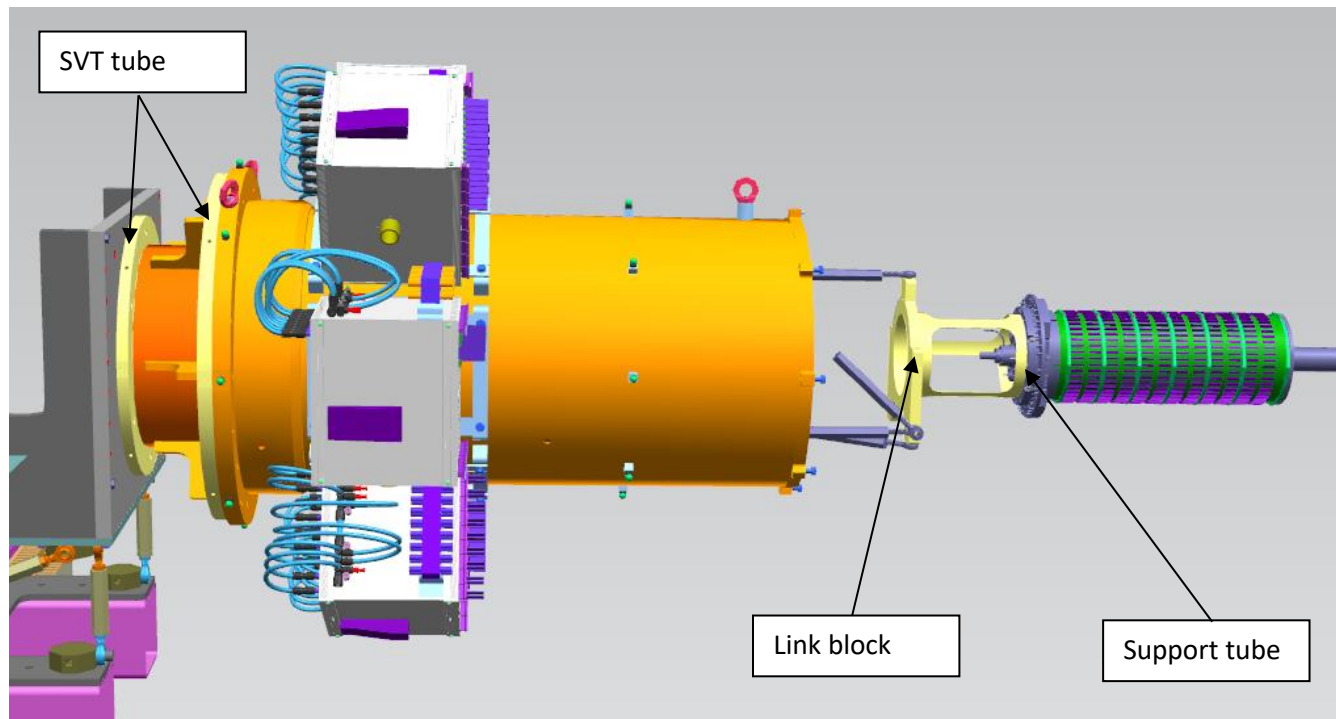


### Alignment 1: Bonus Detector to SVT Tube

- SVT Tube
  - Survey points
- Link Block
  - Survey points
- Support Tube
  - Survey points

#### **Adjust links to:**

- **set target straw axis on the SVT tube axis**
- **set Z location of link block**



### Survey 3: Fiducialize SVT Mount to Target Straw

- SVT Mount
  - Survey points
- SVT Tube
  - Survey points
- Link Block
  - Survey points
- Support Tube
  - Survey points

