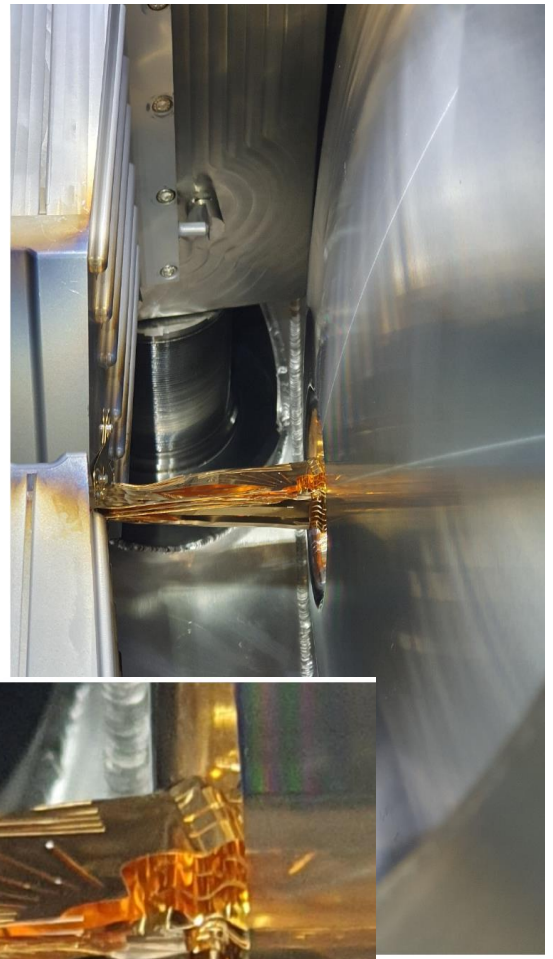
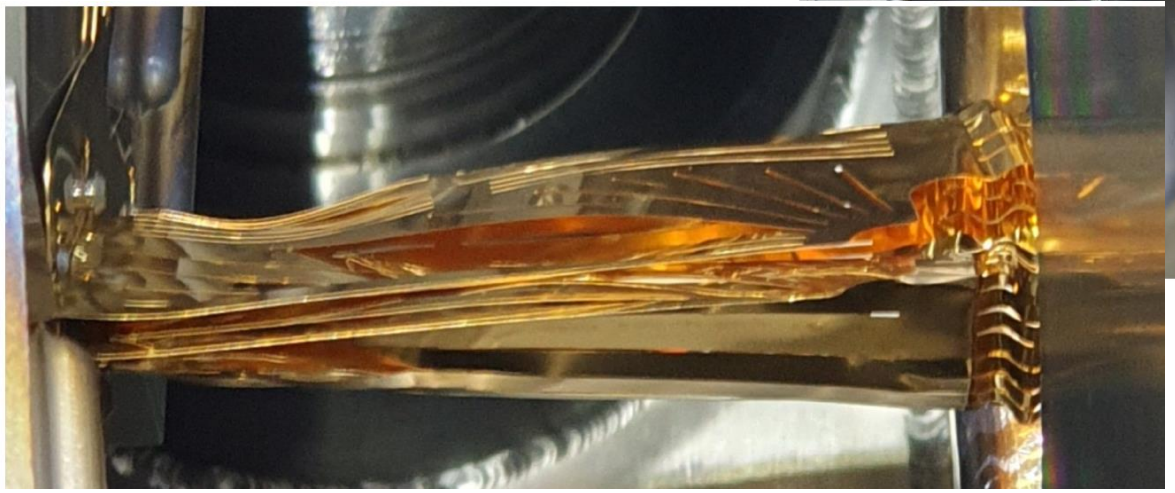
Plan for testing LHCb Velo WFS

Recap from last TREX

- 3 Shapes defined.
  - 2 shapes that were presented do not pose a problem.
  - During the meeting Benoit pointed out a 3rd shape. After a search of all the video and photo material, only one picture was found that really showed the case.





Detailed plan on measurement of wake field suppressor.

1. Call Vacuum-group to confirm that the velo is in a ready state for motion test.
2. 1 person is to monitor the Baratron reading. dP should read 0 mbar, if it is above 1 mbar this person will stop the motion system.
3. Put on full white cleanroom suit.
4. Prepare the gopro session 5 by cleaning it with alcohol and wrapping the stick in aluminum foil.
5. Climb on velo tank.
6. Clean top of the tank with cloth and alcohol.
7. Unscrew all of the bolts in on the CF200 flange downstream c-side.
8. Clean the CF200 flange with cloth and alcohol.
9. Put on gloves.
10. Open the CF200 flange and wrap in aluminum foil
11. Keep the used gasket in place to protect the knife edge.
12. Insert the gopro and document the shape in position 0,0.
13. Determine if the 2 halves of the WFS are touching.
14. Quickly inspect the gopro footage to see if quality and quantity is sufficient.
15. Move the velo to open x29,y0 position. While doing this use the gopro to record the shape.
16. Move the velo to close x0,y0 position and record the shape.
17. Replace the gasket and close the CF200 flange with 35 Nm torque on the bolts. In the numbered pattern that is written in the flange.
18. Call the vacuum-group stating that the intervention is finished.
19. Analyze that video and determine if a modification of the WFS is needed

Next step if action is needed

- Make a tablet top setup, where we try to recreate this shape.
- Deform an upstream wakefield suppressor to realize a better shape. (no longer needed because of smog2 and very similar in shape)
  This method was envisioned by the original engineer, in case of length issues.
- This deformation is done by increasing or decreasing the corrugations of 1 finger.
- If deformation is feasible, deform the installed WFS.