TOF1 shielding

TOF1 Active area = 42 cm x 42 cm

Closing flange

Virostek shield

Linking ring

Beam

Gh. Grégoire
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TOF1 maintenance

Magnetic linking ring (blue) has one movable part (yellow). The rest is completely closed.

Weight ~ 60 kg

3-axis hinge mechanism (shown here without stiffeners)

Axes are provided with conical roller bearings

Motion is easily done hand!
The split ring should be slightly wedged (tapered) to make the extraction motion more easy.
TOF1 displacement mechanism (I)

Telescopic tubes (black and light blue)

- Nothing sticks out of the shield in the closed position
- Insufficient displacement to get access to all PMTs
- Questionnable stability at full extension
- Everything in aluminium or plastic
Fixed length guide tubes

- 70-cm wide permanent extension of guide tubes outside shield
- Straightforward to construct
- Perfect stability at all positions
- Everything in aluminium or plastic

Note. Although more complicated it would be possible to remove the external parts of the tubes when TOF1 is in the beam
Questions and conclusions

Question

My preferred solution is the second mechanism (fixed length guide tubes)

Is it anything against the permanent presence of tubes laterally sticking out of the shield?

Comments

• Nothing done yet for TOF2

But from the presently fixed hole dimensions (50 cm for Virostek / 60 cm for the 2nd layer)

a) I suspect that the scintillator slab length is 60 cm. Right?

b) What is the thickness of the scintillator? Same as TOF1?

c) What is the slab width of the scintillators?

• Nothing done yet to check the 3D magnetic field inside the shields