TOF2 re-baselining

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TOF2 station optimization

- Basic element: scintillator slab with plexiglass light-guides read by Hamamatsu R7761 fine-mesh PMTs
- 2 planes: X,Y oriented to allow multi-hits rejection capability
- Each plane is made of 8 staggered slabs to allow cross-calibration with impinging muons (width=8 cm, superimposed for 2 cm at the edges)
- Calibration: overlaps + laser system
- Mechanics design (CAD) in progress
Scintillation counter: basic element (mounting assembly)
Scintillation counter construction

- BC-404 or BC-420 scintillation slabs from Bicron (DTF finish)
- Home made plexiglass light guide
- Home made counter mounting (3 prototypes ready in Milano)
- Home made PMT holder
CAD design for TOF2

- 2 X/Y staggered planes (2cm superposition)
- Problem: mechanics support structure
X/Y planes front view

500 mm

890 mm
X/Y planes top view
Plexiglass lightguides

here we will hang to support structure the scintillation counters via a comb
Conclusion

- TOF2 dimensions 50 x 50 cm^2
- thickness: 4 x 2.5 cm scintillator slabs + some space for support under study (in all \( \leq 15\text{-}20 \) cm)
- I need to know: lateral space available for stalls to support TOF2 and max space in z (along beam)