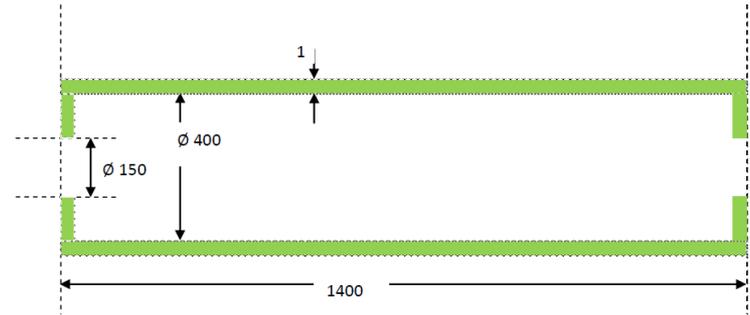
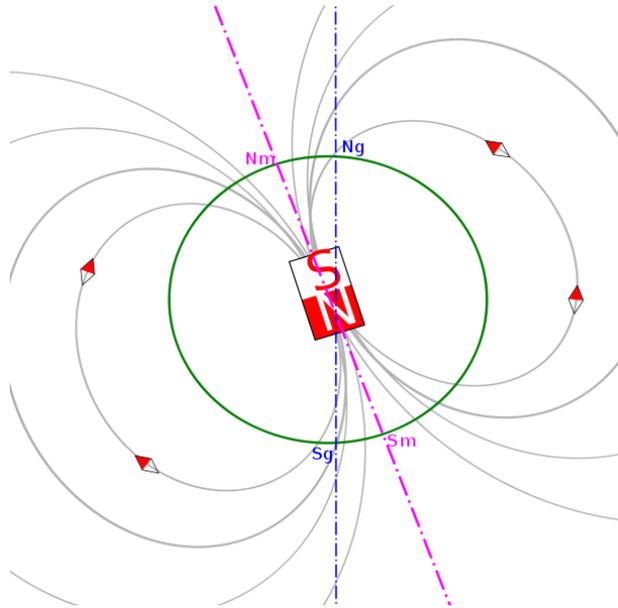
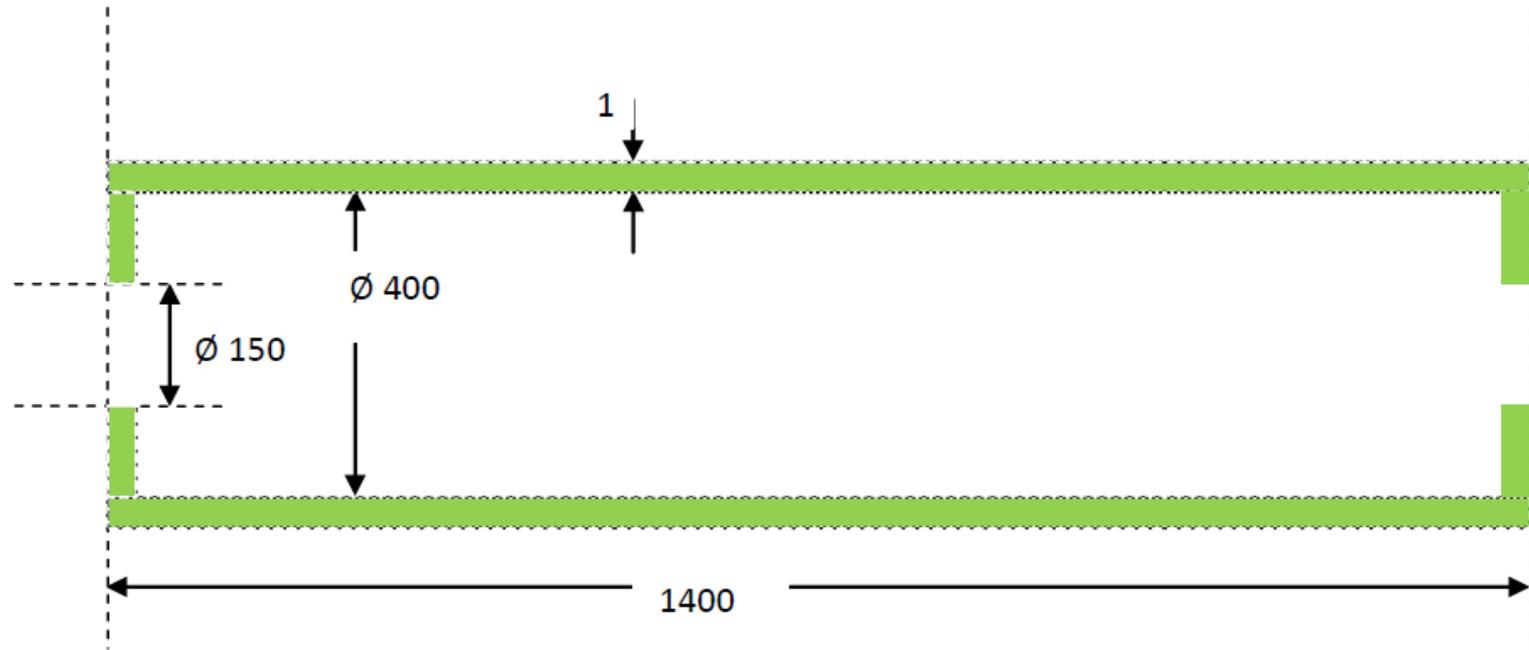


Magnetic shielding for SPL cavities

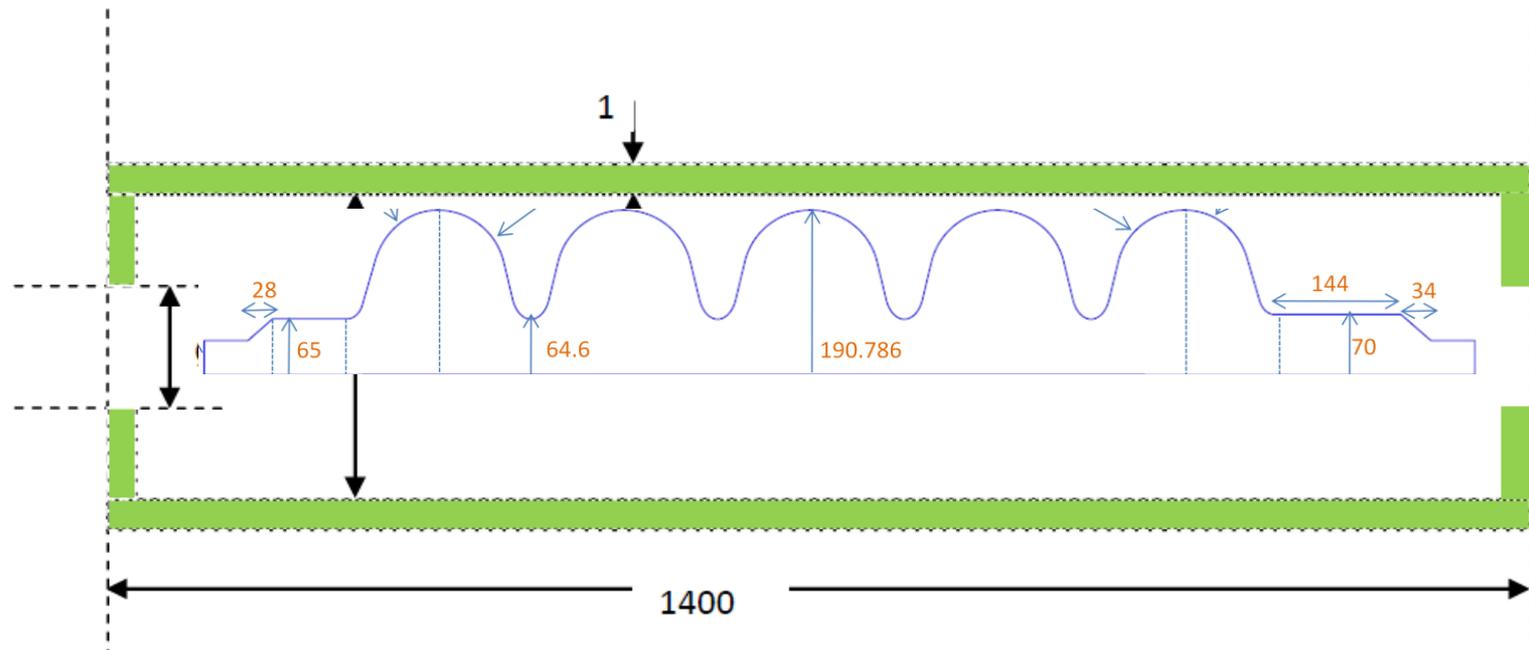


Tobias Junginger

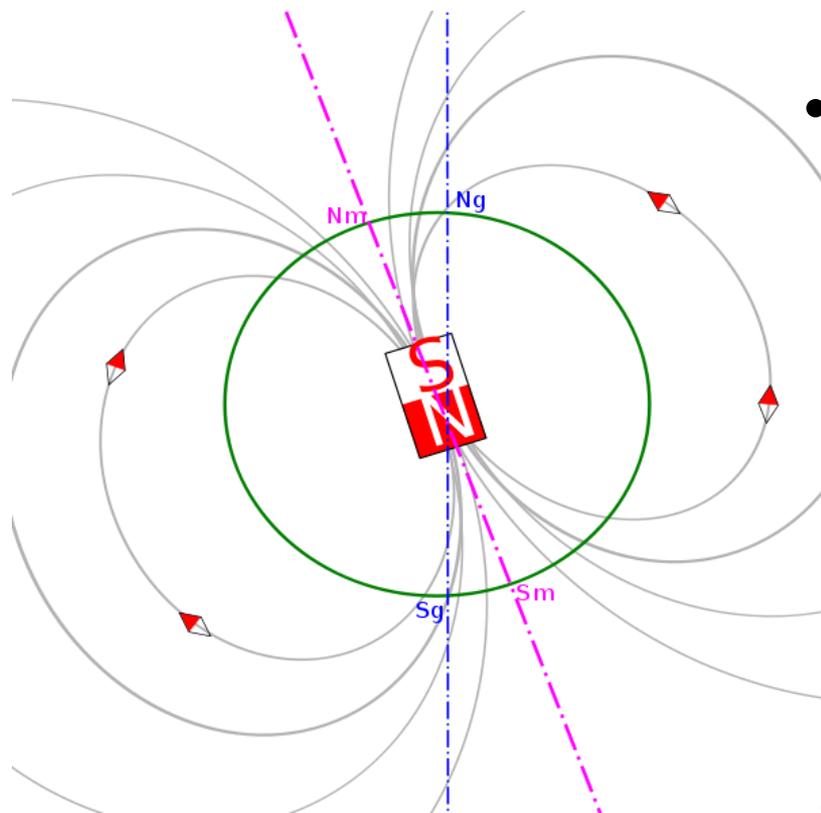
Tobias.Junginger@quasar-group.org



- Material: Cryoperm 10
- Thickness of sheet: 1 mm



- Material: Cryoperm 10
- Thickness of sheet: 1 mm



- Assumptions
 - SPL goes straight from the South to the North
 - Magnetic field $50 \mu\text{T}$, 45°
- Requirement
 - Less than $1 \mu\text{T}$ on cavity surface

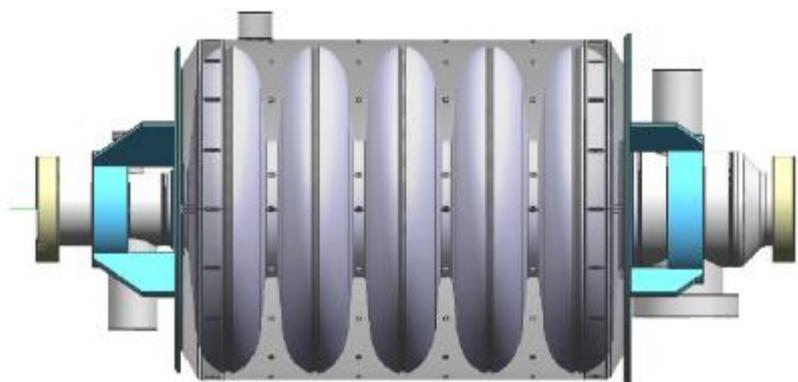
Proceedings of EPAC08, Genoa, Italy

DESIGN OF A MAGNETIC SHIELD INTERNAL TO THE HELIUM TANK OF SRF CAVITIES*

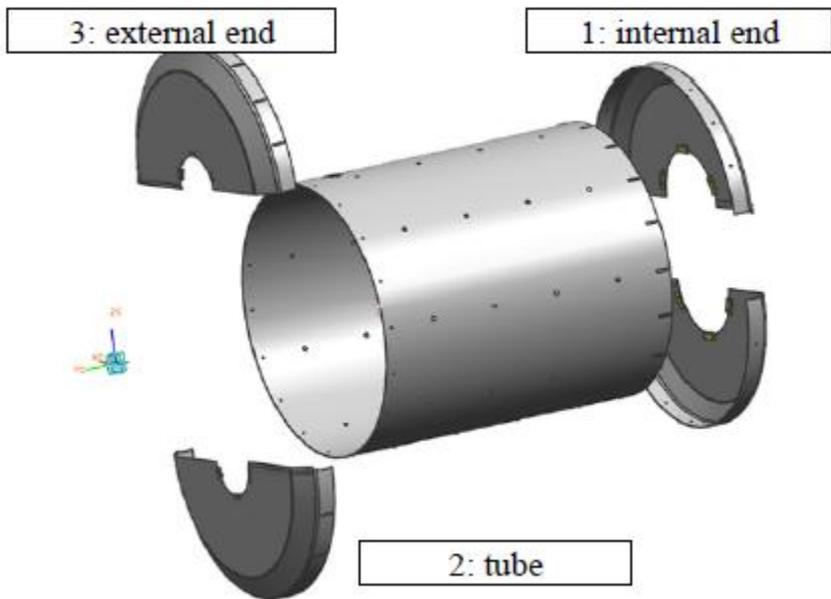
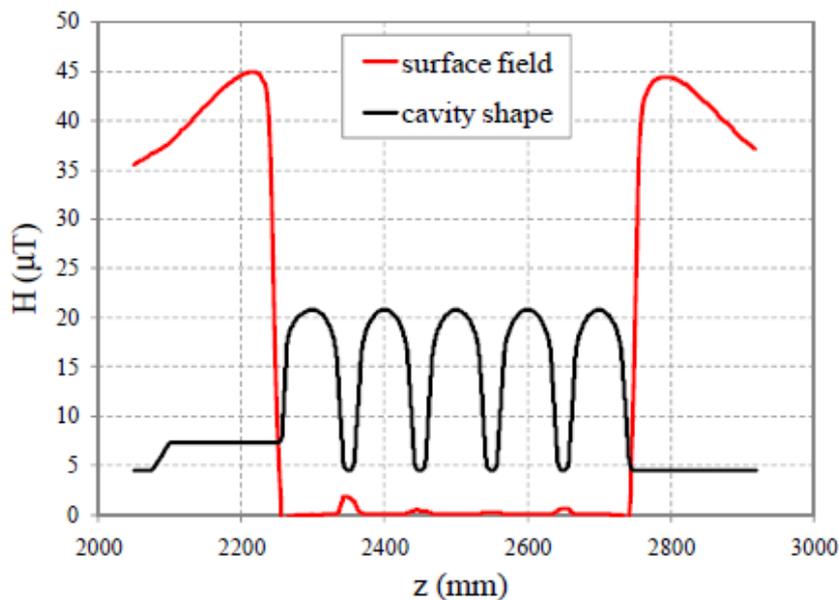
P. Pierini, S. Barbanotti, L. Monaco, N. Panzeri, INFN Milano LASA, Segrate (MI), Italy



- $f=704.4$ MHz
- $\text{Beta}=0.47$



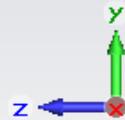
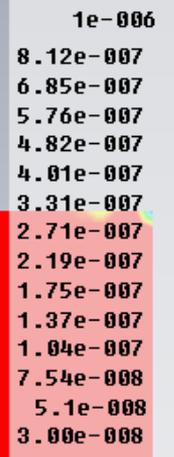
- 30 μT field parallel to beam axis
- 1 mm thick cryoperm 10 shield
- Two shields have already been produced and their shielding performance will be measured



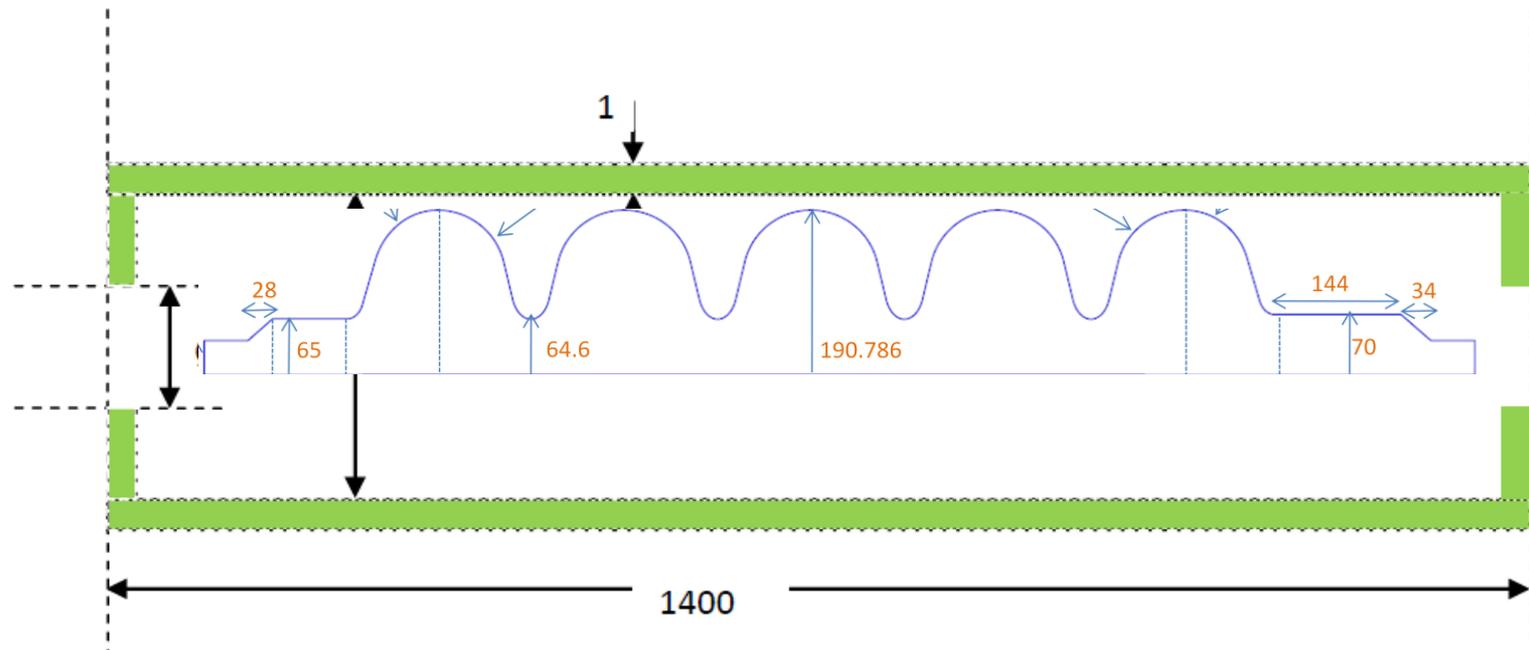
Case	$\langle H \rangle$ (μT)	R_s ($n\Omega$)
Ideal: no gap	0.44	1.10
Not ideal: 0.1 mm gap at each end	2.08	5.23

Clamp to range: (Min: 0/ Max: 1e-006)

Us/m²



Type	B-Field
Component	Abs
Plane at x	0
Maximum-2d	0.00981983 Us/m ² at -1.17234e-014 / -201 / 700



Maximum Value $H_{\max} = 6.4 \mu\text{T}$

Maximum Value on cavity

(without cut-off tubes) $H_{\max} = 0.37 \mu\text{T}$