

# H & V TMCI INTENSITY THRESHOLDS IN A FLAT CHAMBER COMPARED TO A ROUND ONE

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- ◆ Study done in the case of the SPS (same parameters as for the other simulations on the time evolution)

$$\sigma_t = 0.7 \text{ ns}$$

$$R_y = 20 \text{ M}\Omega/\text{m}$$

$$Q = 1$$

$$f_r = 1 \text{ GHz}$$

◆ **Round chamber**  $N_b^{th,x} = N_b^{th,y} \approx 2.8 \times 10^{10} \text{ p / b}$

◆ **Flat chamber**  $N_b^{th,y} \approx 3.5 \times 10^{10} \text{ p / b}$

$$2.8 \times \frac{12}{\pi^2} = 3.4$$

$$N_b^{th,x} \approx 8 \times 10^{10} \text{ p / b}$$

$$2.8 \times \frac{24}{\pi^2} = 6.8$$

⇒ **The intensity threshold is increased in a flat chamber by**

- **The vertical Yokoya factor in the V-plane**

- **Slightly more than the horizontal Yokoya factor in the H-plane (it is not suppressed and the effect of the detuning impedance, if any, seems small and in the plane of higher threshold)**

⇒ **This is the starting point for our study on the effect of linear coupling**