

Short introduction to the MAX-lab storage rings.

MAX-I: 0.5 GeV } In operation
MAX-II: 1.5 GeV } (only multibunch)
MAX-III: 0.7 GeV Under construction → 2002

Main problem: HOM-driven long. coupled-bunch instabilities

$$\Rightarrow \frac{\sigma_E}{E} \gg \left(\frac{\sigma_E}{E}\right)_{\text{nat}} \quad \text{without cure}$$

MAX-I: NC 500 MHz main cavity

1988: Installed one NC passive 1.5 GHz Harm. C.

Only partially successful (not in operation)

MAX-II: NC 500 MHz main cavity

1997: Installed four NC passive 1.5 GHz Harm. C.s

Successful $270 \text{ mA} \rightarrow 40 \text{ mA}$ • $\frac{\sigma_E}{E} \sim 2 \times \left(\frac{\sigma_E}{E}\right)_{\text{nat}}$

In operation

• $\tau_{\text{TOUS}} \uparrow \times 2$

MAX-III: NC 100 MHz main cavity +

2002 one NC passive 0.5 GHz Harm. C.

MAX-II: NC 100 MHz main cavity +

~2003 one NC passive 0.5 GHz Harm. C.