MAMI@Mainz

Contact person

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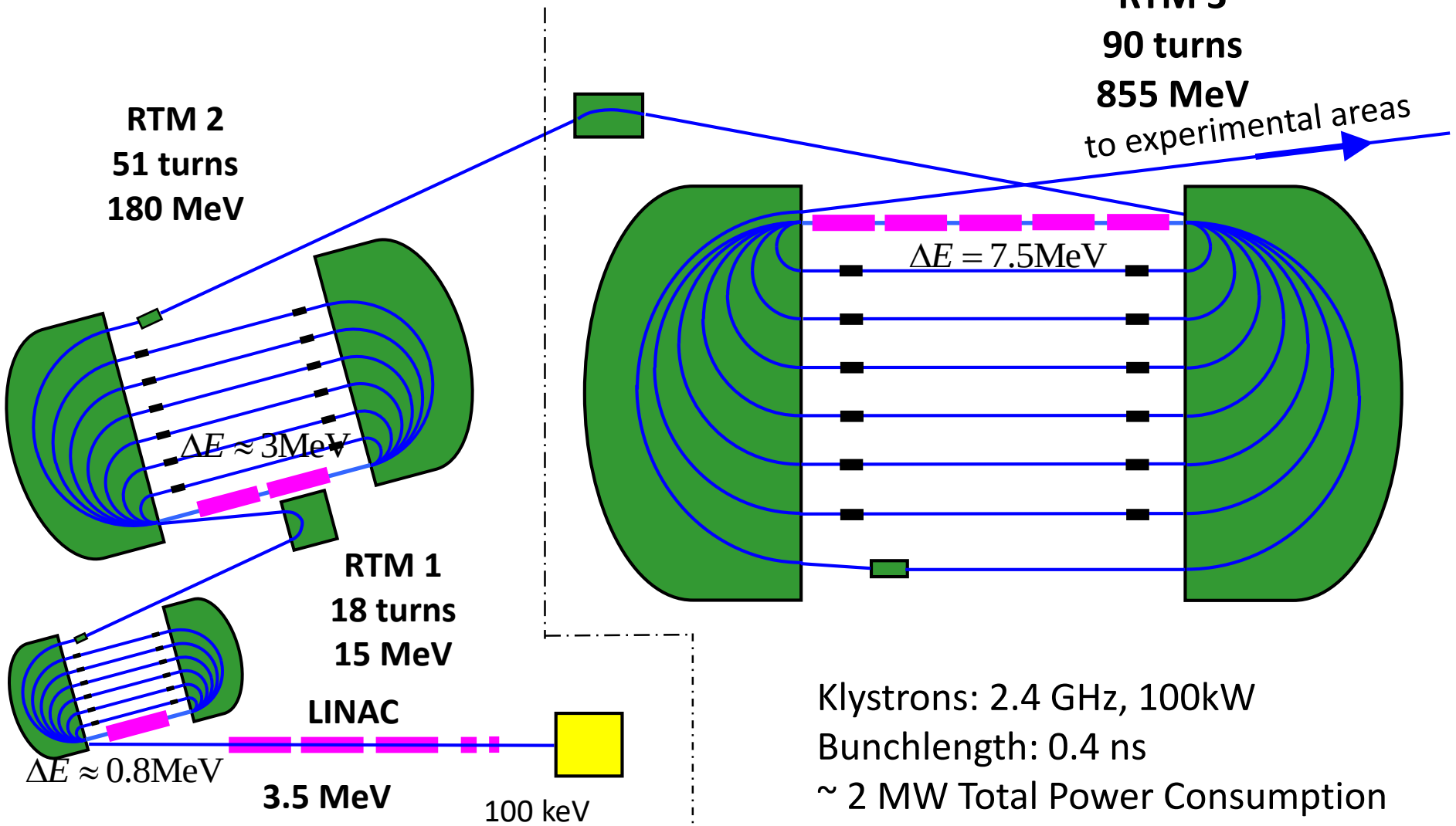
Mainzer Mikrotron MAMI B



Klystrons: 2.4 GHz, 100kW
Bunchlength: 0.4 ns
~ 2 MW Total Power Consumption

Ground plan of MAMI

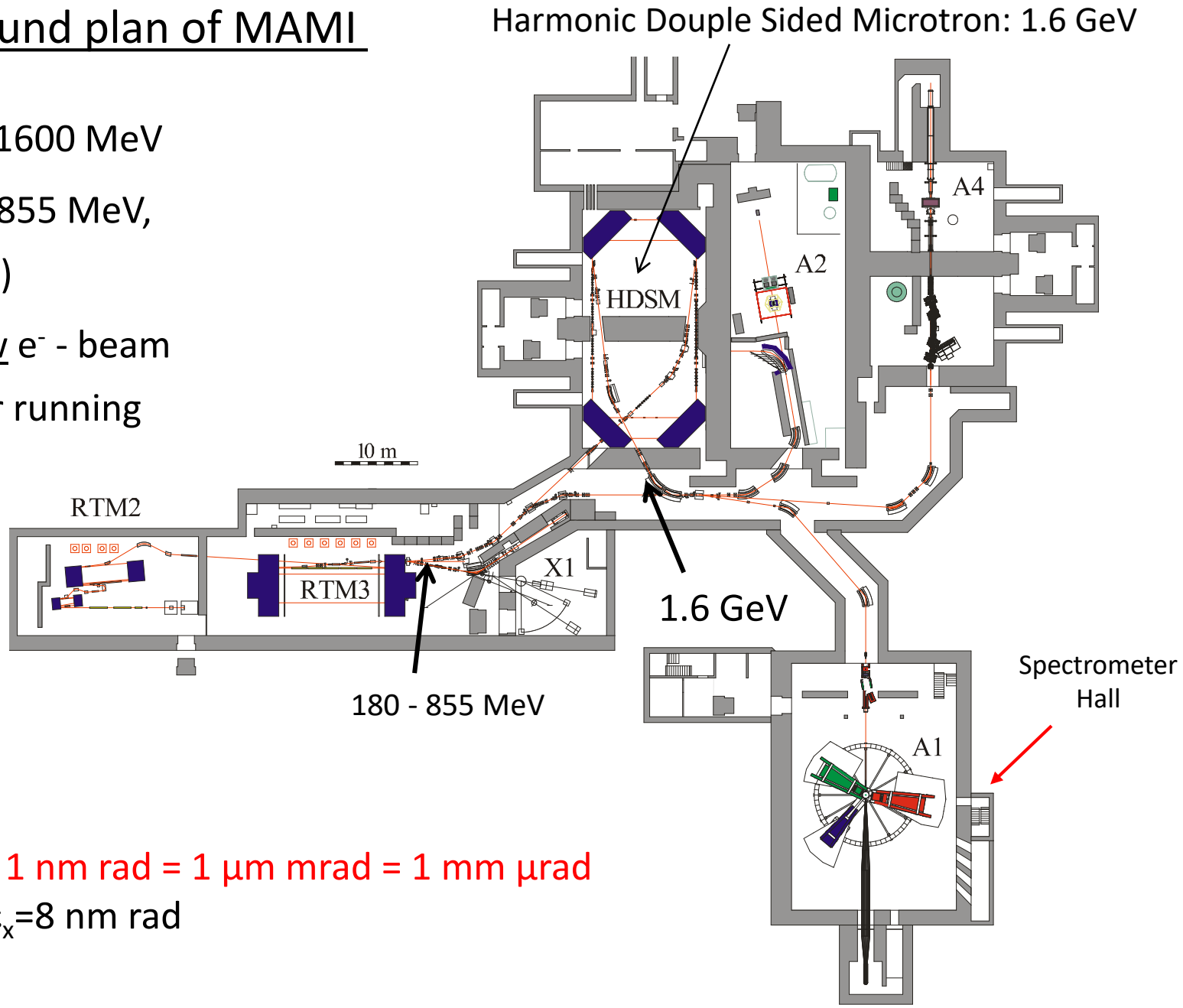
E= 180 MeV – 1600 MeV

ΔE = 13 keV @855 MeV,

$\Delta E/E = (2 \cdot 10^{-5})$

max. 100µA cw e^- - beam

~ 7000 h / year running

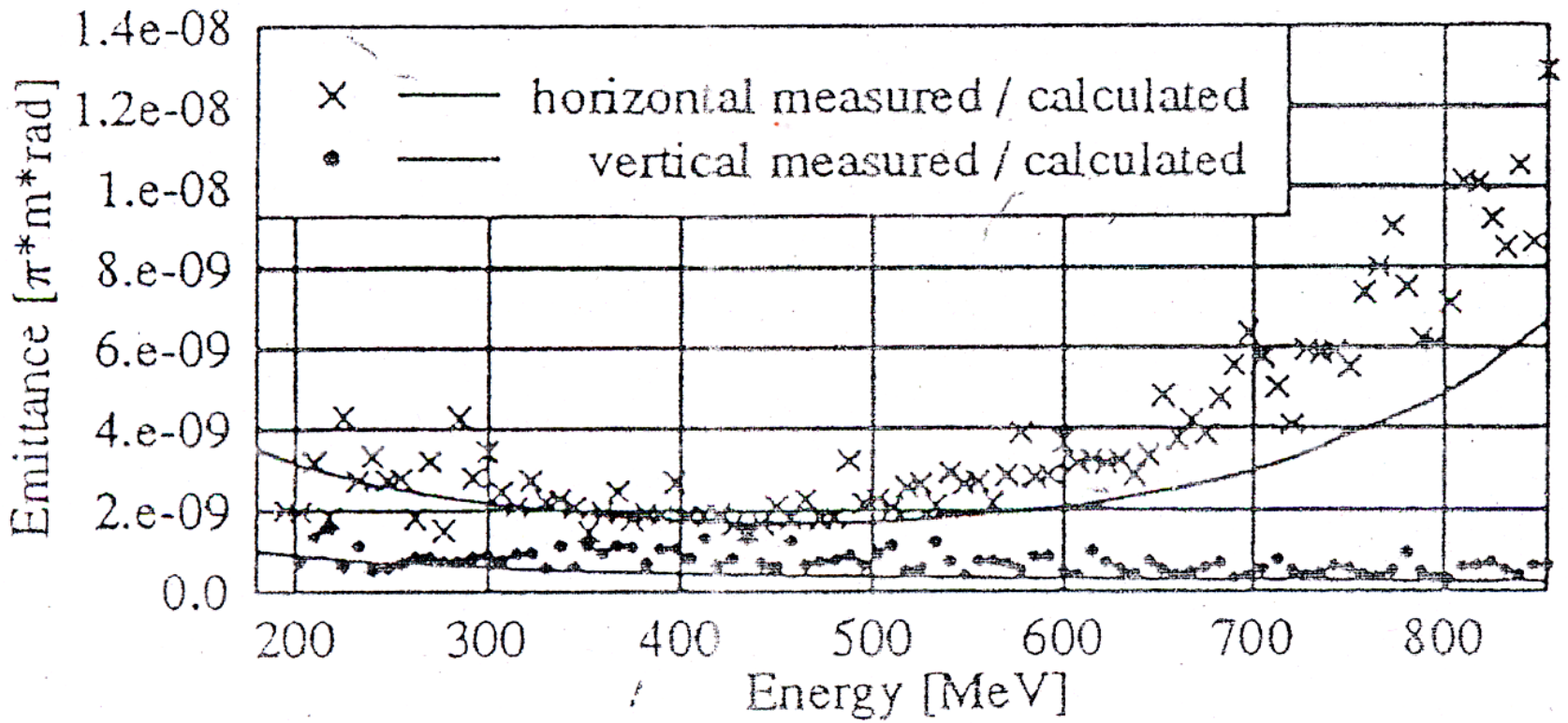


Emittance:

Vertical : ε_y= 1 nm rad = 1 µm mrad = 1 mm µrad

Horizontal: ε_x=8 nm rad

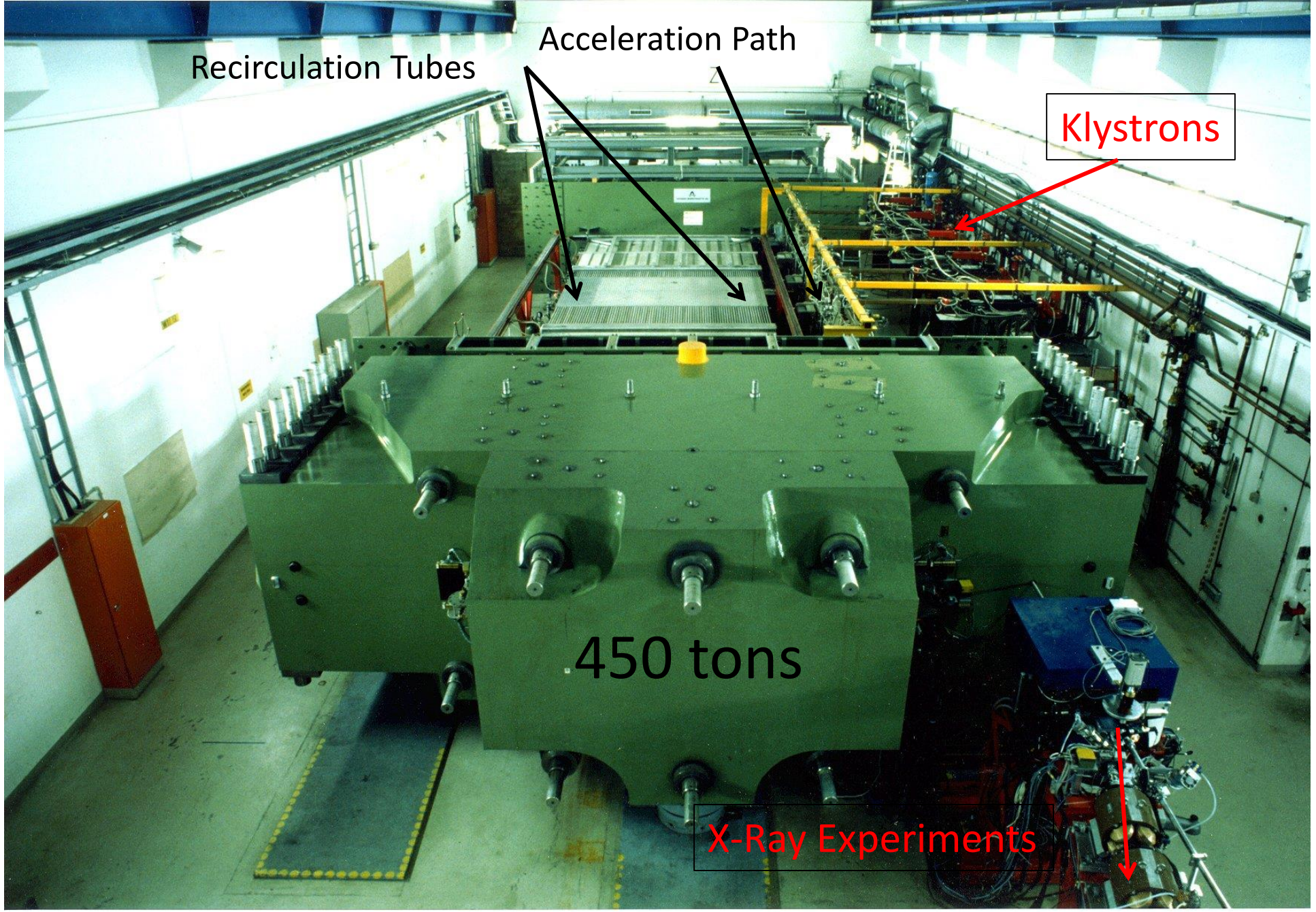
Emittance and Spotsize



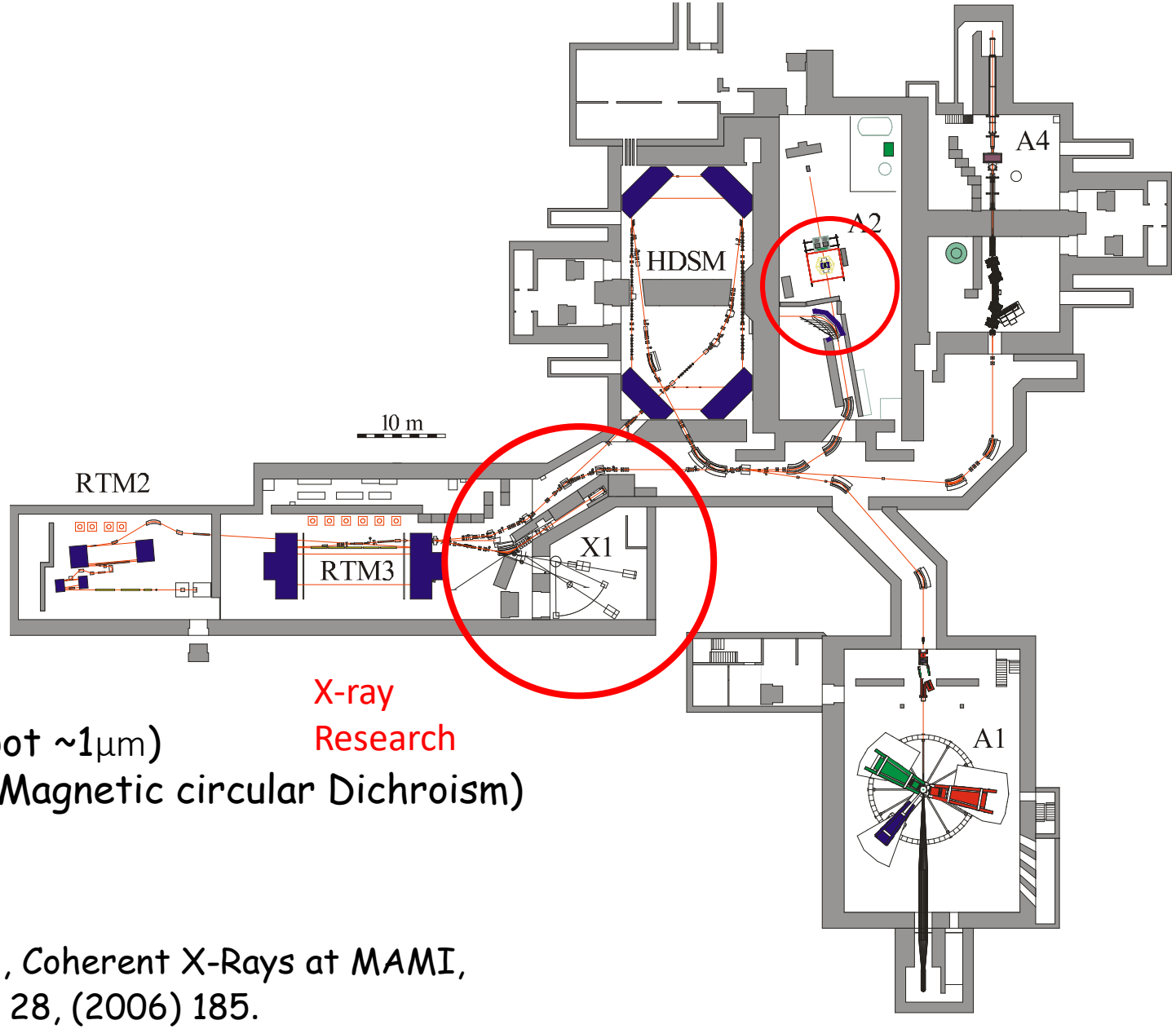
For Beamspotsize of 1mm ->

$$\theta_{vert} \approx 1\mu rad$$

$$\theta_{hor} \approx 8\mu rad$$


Recirculation Tubes
Acceleration Path
Klystrons
450 tons
X-Ray Experiments

X-Ray Experiments @ MAMI

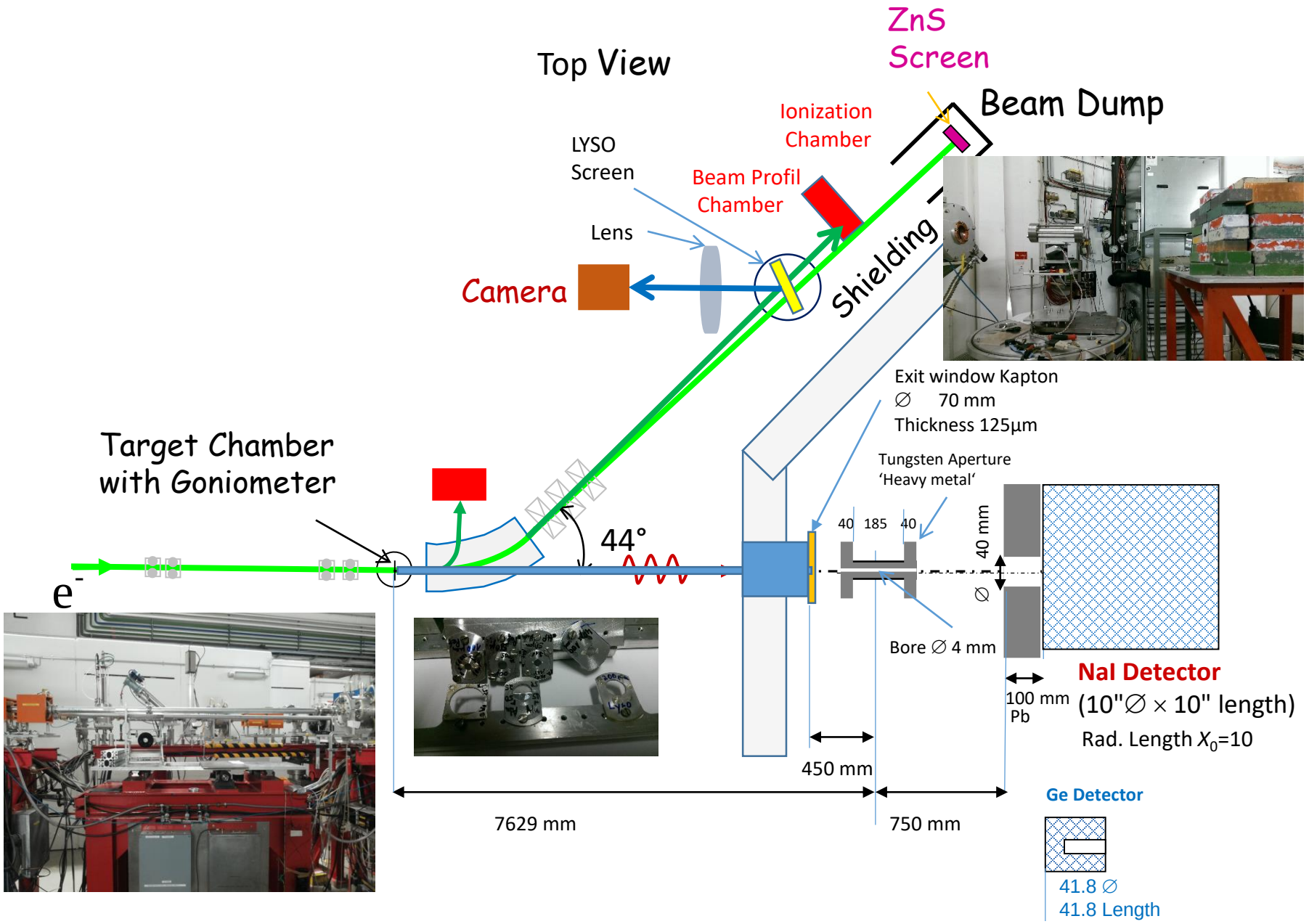


X-ray Research

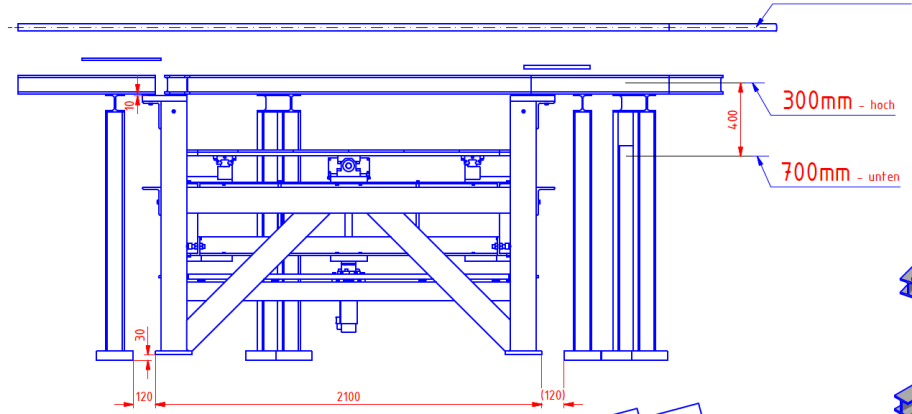
Phase Contrast (Beamspot ~1μm)
X-ray Interferometry (Magnetic circular Dichroism)
PXR, TR, Channeling
Detector Tests

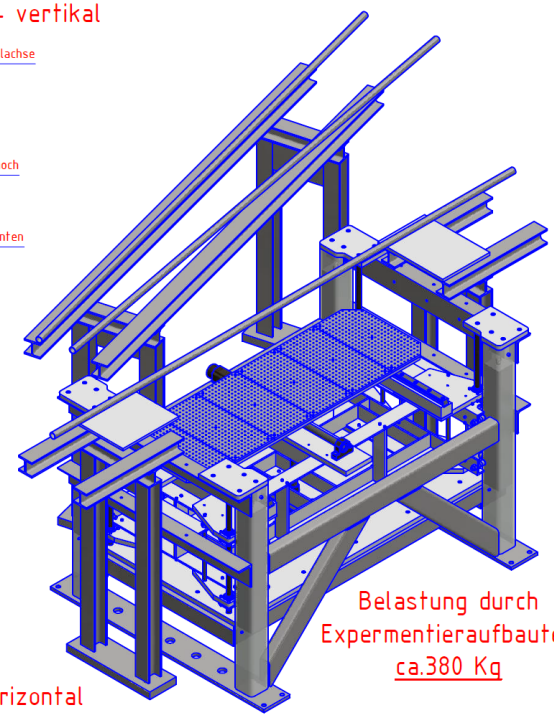
W. Lauth et al., Coherent X-Rays at MAMI,
Eur. Phys. J. A 28, (2006) 185.

Experimental Setup (855) MeV e⁻

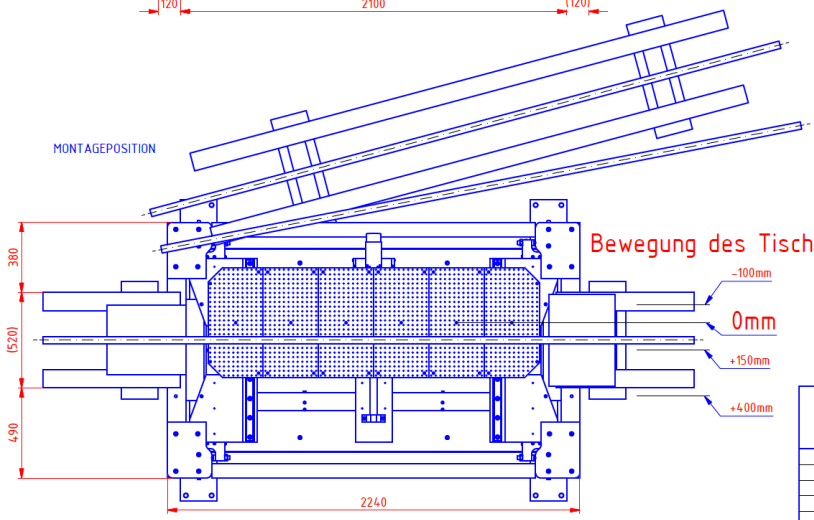


Bewegung des Tisches - vertikal



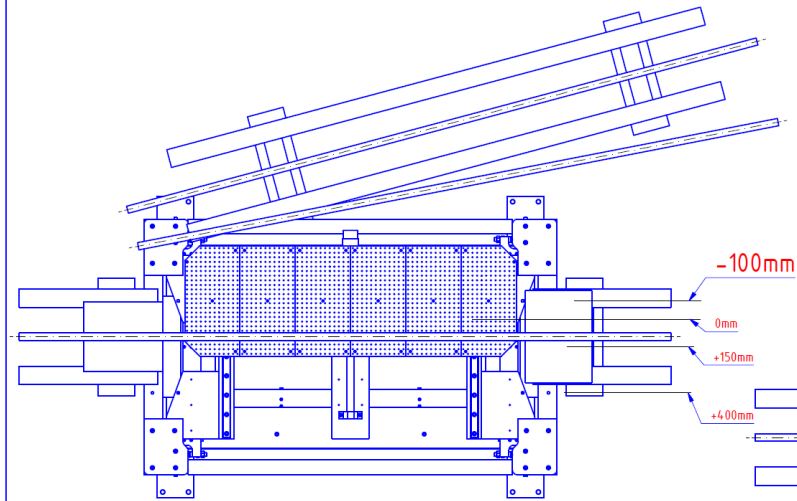


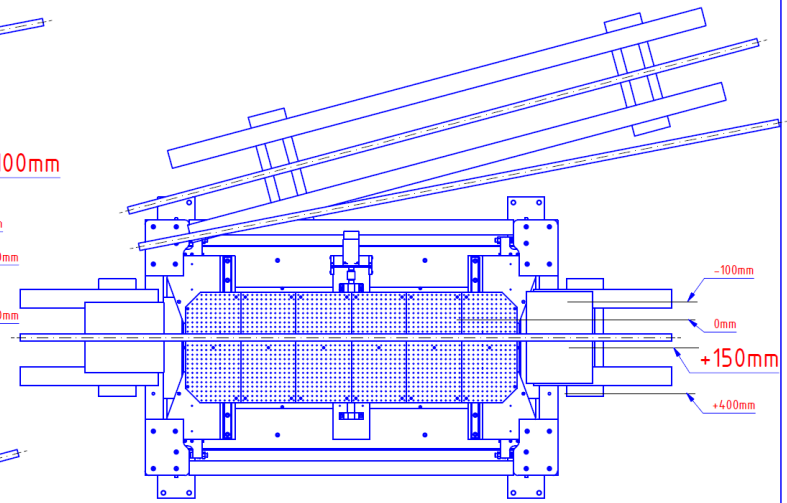
Belastung durch
Expermentieraufbauten
ca.380 Kg

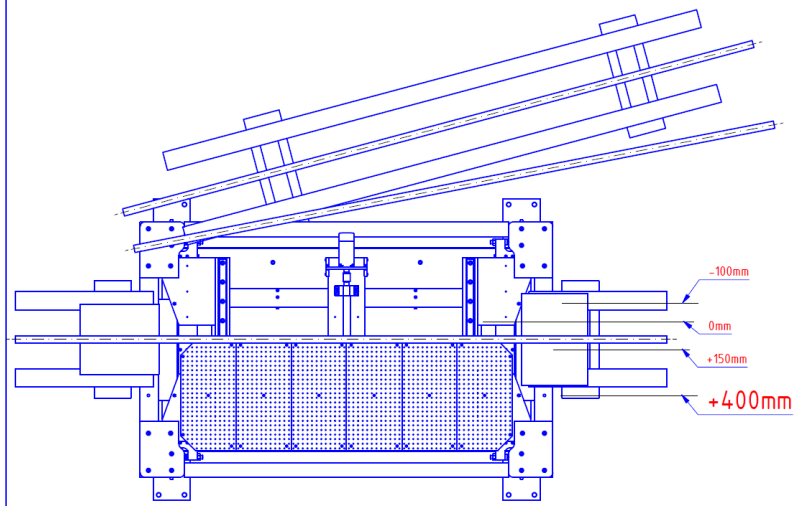


Bewegung des Tisches - horizontal

						Maßstab: 1:20	ACAD Version 2000
						Institut für Kernphysik Universität Mainz	
					Datum / Name		
				Bearb.	13.03.2018 Ungureanu	Expermentiergestell X	
				Gepr.		Zusammenbau - Diskussion Finale	
				Norm			
						Z.-Nr.: 2479-3	Blatt 1/2
Zust.	Änderung	Datum	Name				







Die verschiedene Positionen des Tisches!
horizontal

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						Institut für Kernphysik Universität Mainz	
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				Bearb.	13.03.2018	Ungureanu	
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				Norm			
						Z.-Nr.: 2479-3	Blatt 2/2
Zust.	Änderung	Datum	Name