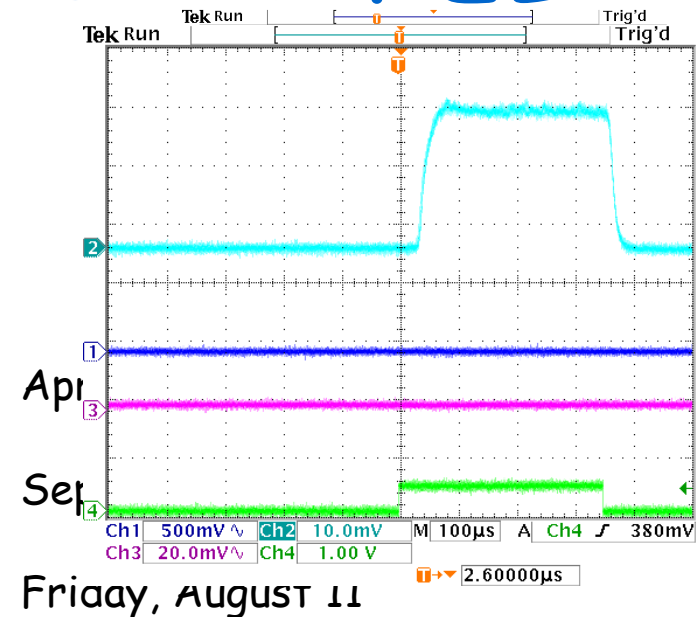


First lasing at the U100-FEL

Time schedule of U100 commissioning

1. Start of development and design
2. Ordering of hardware
3. Assembling completed, evacuation
1. First electron beam through the FEL
2. Observation of spontaneous radiation
3. **First lasing @ 59.5 μm !!!**



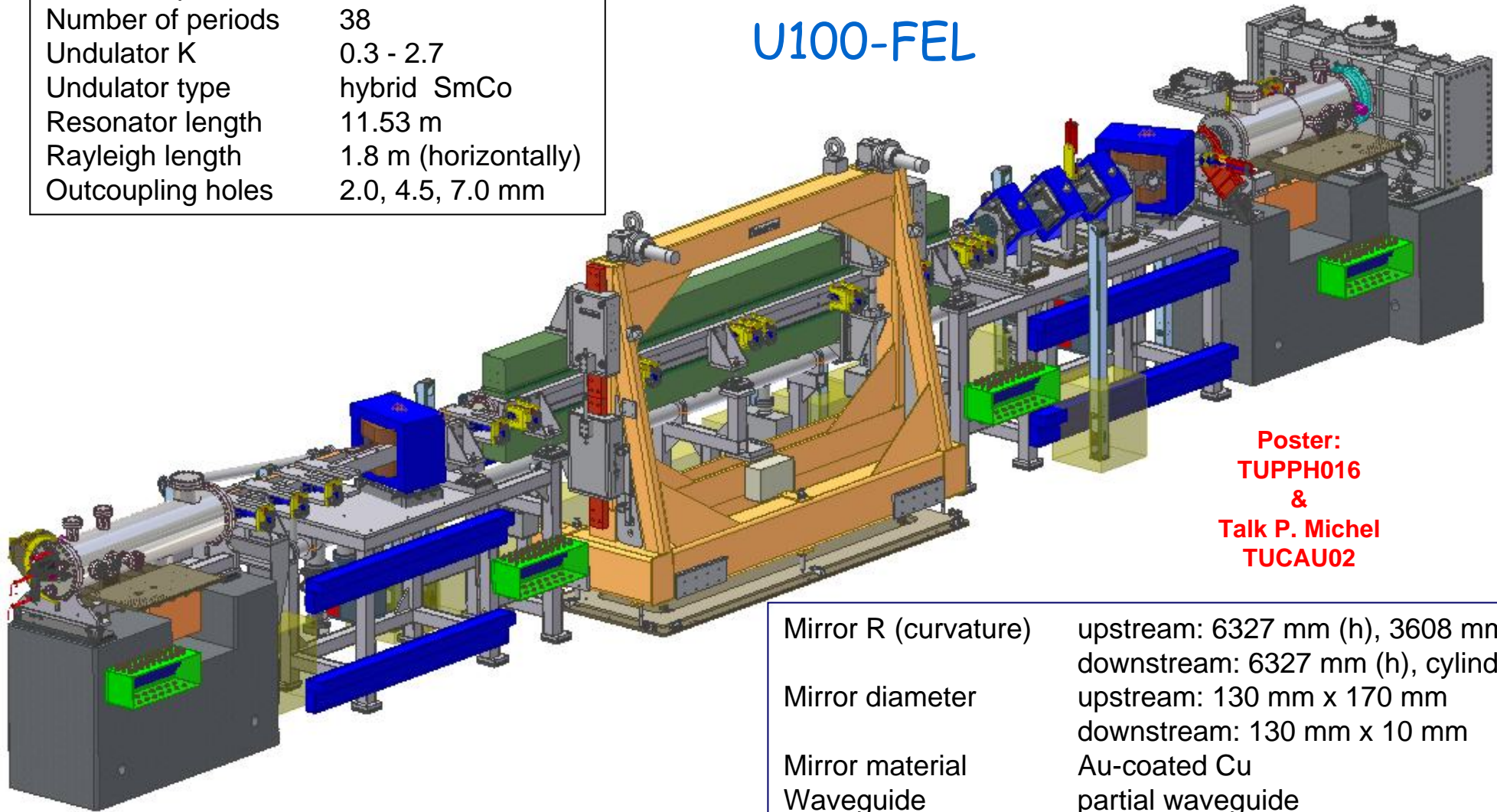
Wednesday, August 16

Thursday, August 17

Monday, August 21, 16:22 o'clock

Undulator period	100 mm
Number of periods	38
Undulator K	0.3 - 2.7
Undulator type	hybrid SmCo
Resonator length	11.53 m
Rayleigh length	1.8 m (horizontally)
Outcoupling holes	2.0, 4.5, 7.0 mm

U100-FEL

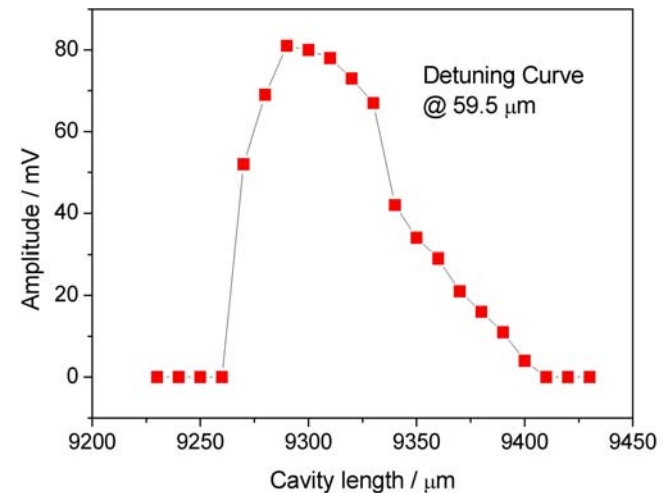
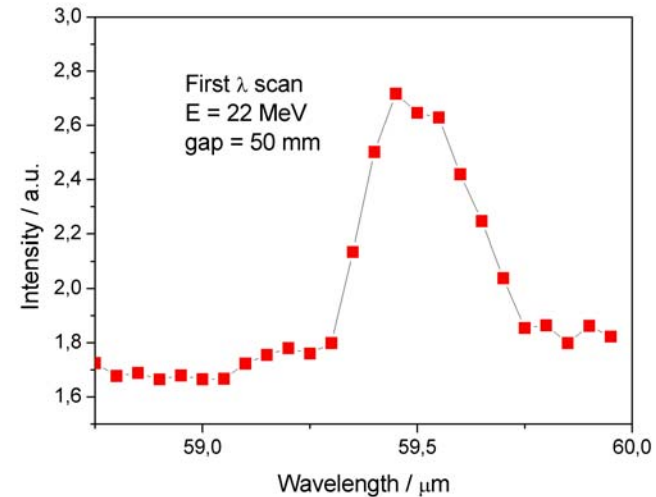


Poster:
TUPPH016
&
Talk P. Michel
TUCAU02

Mirror R (curvature)	upstream: 6327 mm (h), 3608 mm (v), downstream: 6327 mm (h), cylindrical
Mirror diameter	upstream: 130 mm x 170 mm downstream: 130 mm x 10 mm
Mirror material	Au-coated Cu
Waveguide	partial waveguide
Wavelength	20 - 150 (200) μm
Max. power (out)	>10 W
Max. pulse energy	>1 μJ

First Results

- Lasing @ 20.5 μm - 65 μm
- Energies: 22 MeV - 33.7 MeV
- Undulator gaps: 42 mm - 67mm
- K_{rms} : 1.5 - 0.65
- Power: 0.3 W - 4 W
- Achieved overlap with U27 range (3-22 μm)



Acknowledgment

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- Please take a look at TUPPH015/016

Thank you for your attention

