

PAUL SCHERRER INSTITUT

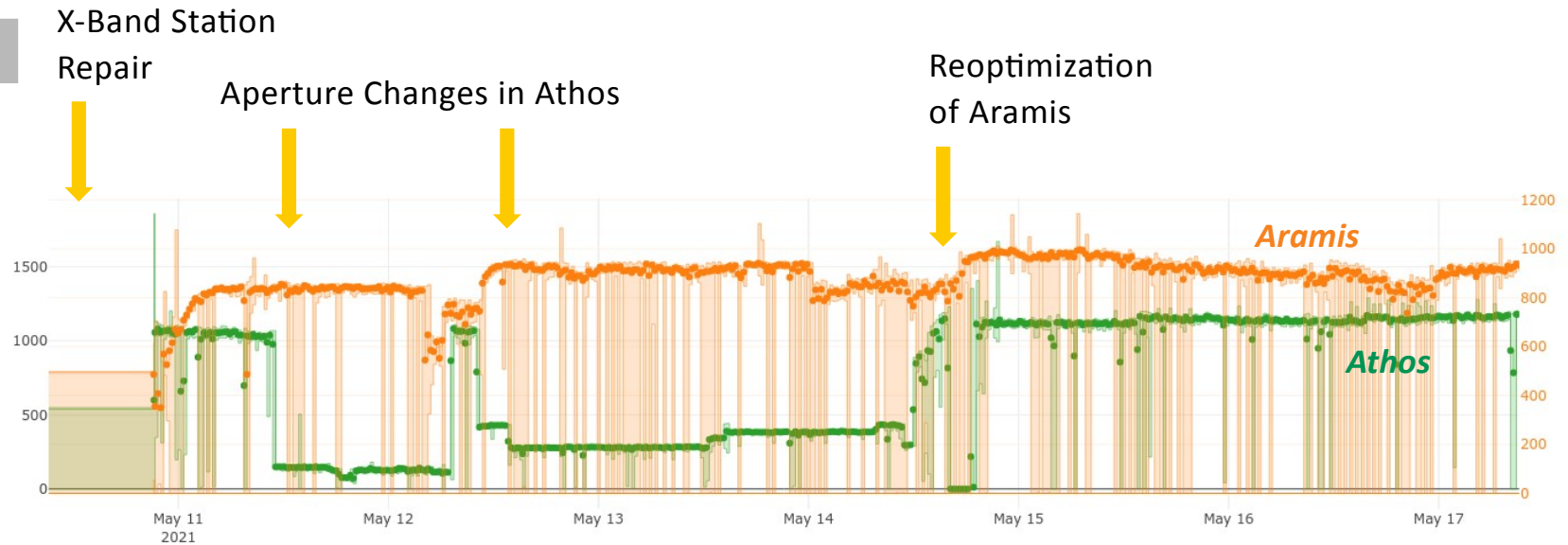


Sven Reiche :: 8122 :: Paul Scherrer Institute

# Run Coordinator – 10.5.2021-17.5.2021

*Special thanks to Eduard Prat, Didier Voulot and Claudio Cirelli*

SEM – 17.5.2021



### Programm:

- Aramis: Photon delivery for user run
- Athos: Monochromator commissioning / Dechirper Commissioning

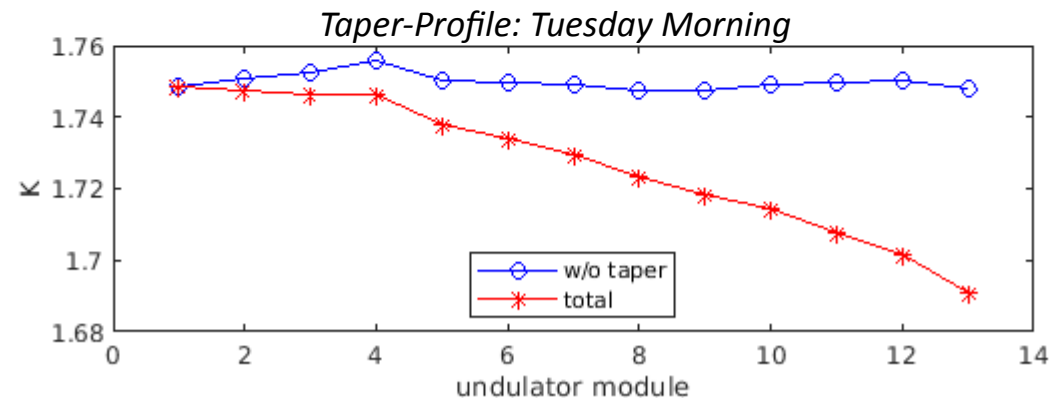
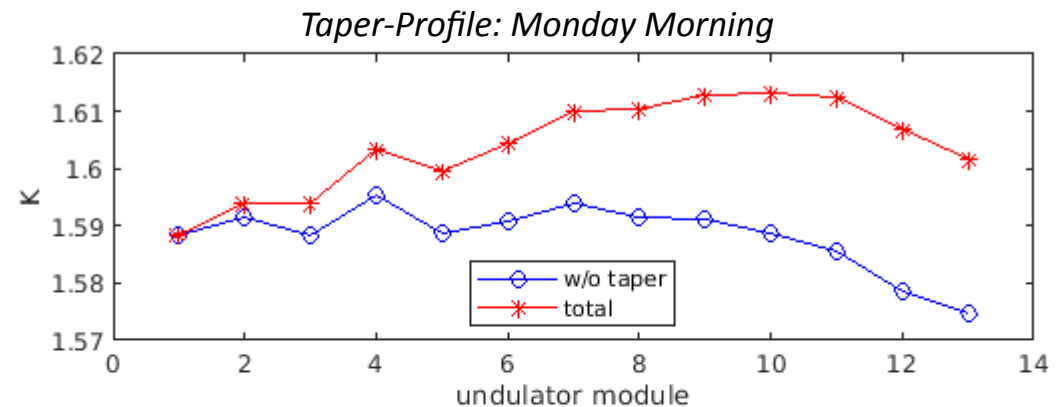
Downtime on Monday:

- Repairing a faulty switch the X-band rectifier
- Setup started at 9 pm. Quick recovery of the previous performance (500 uJ Aramis, 1 mJ Athos)

Undulator Contribution Measurement showed only last undulator modules lasing.

Manual Optimization of K-Profile, Closing dispersion, Beam Orbit gave 680 uJ pulse energy.

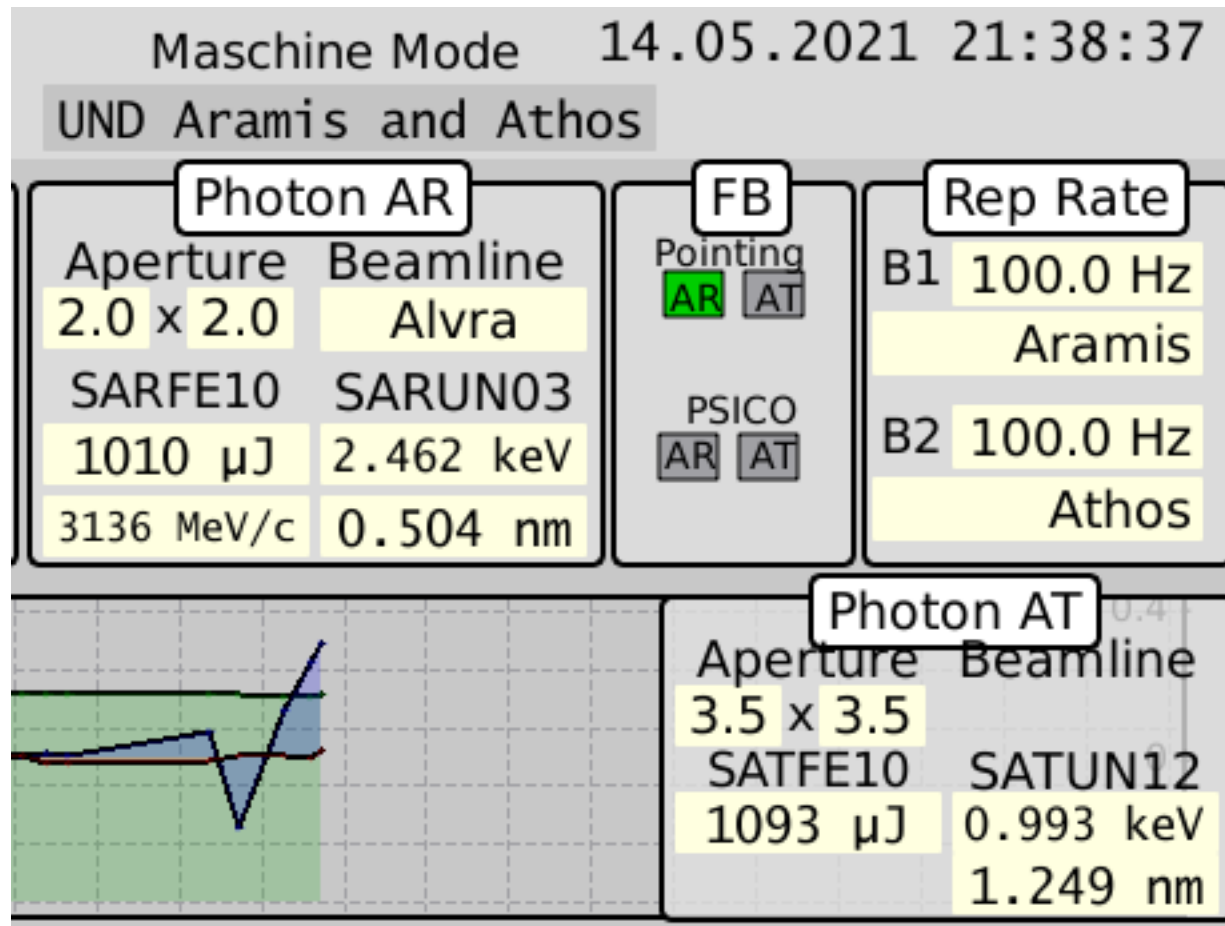
PSICO brought it up to 900 uJ over night



# Optimization on Friday

During a user pause, machine was further optimized manually (mostly cycling quadrupoles)

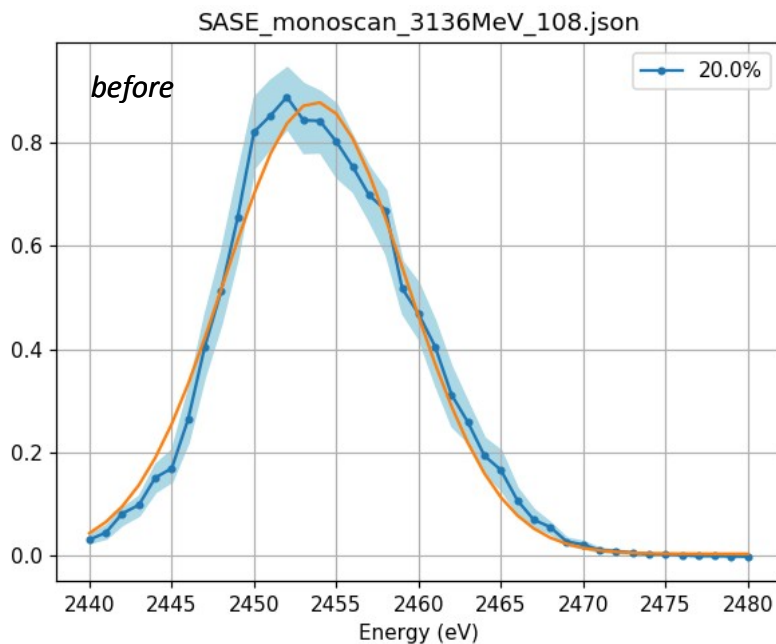
Reached simultaneously over 1 mJ in both beamlines at 100 Hz



# Further Optimization on Saturday

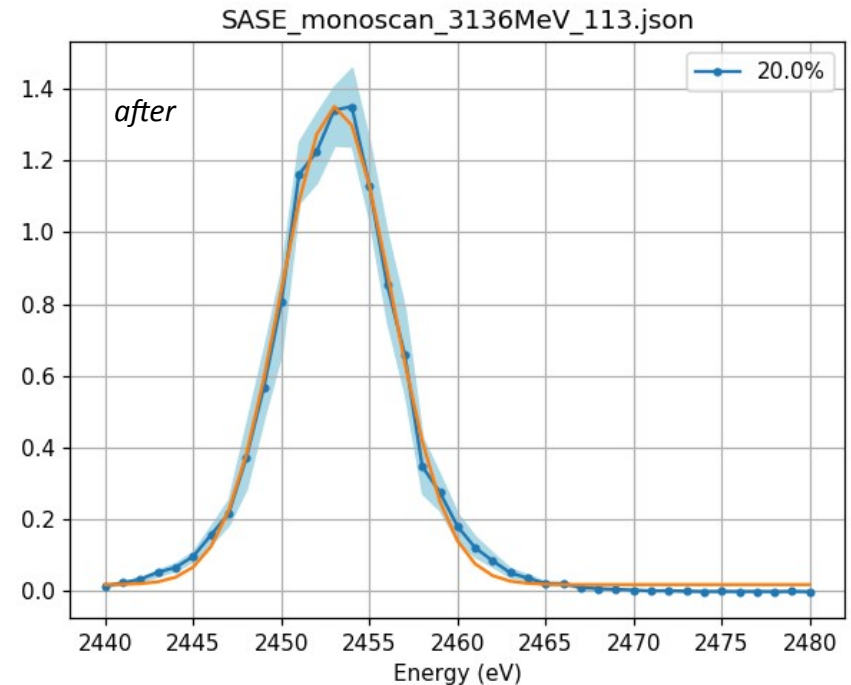
While Aramis provided higher pulse energies the spectral brightness was degraded. With the help of Claudio to get spectral information with monochromator scan (currently the online tender X-ray spectrometer is not available), the bandwidth was reduced.

Main knob: Closing the gap of the dechirper in S30CB15 from 24 mm to 2 mm.



Position  $t_0 = 2453.731$  eV  
 Width = 13.016 eV  
 Bandwidth = 0.5304574951369975 %

x=2475.89 y=0.137



Position  $t_0 = 2453.104$  eV  
 Width = 7.427 eV  
 Bandwidth = 0.3027592796717954 %