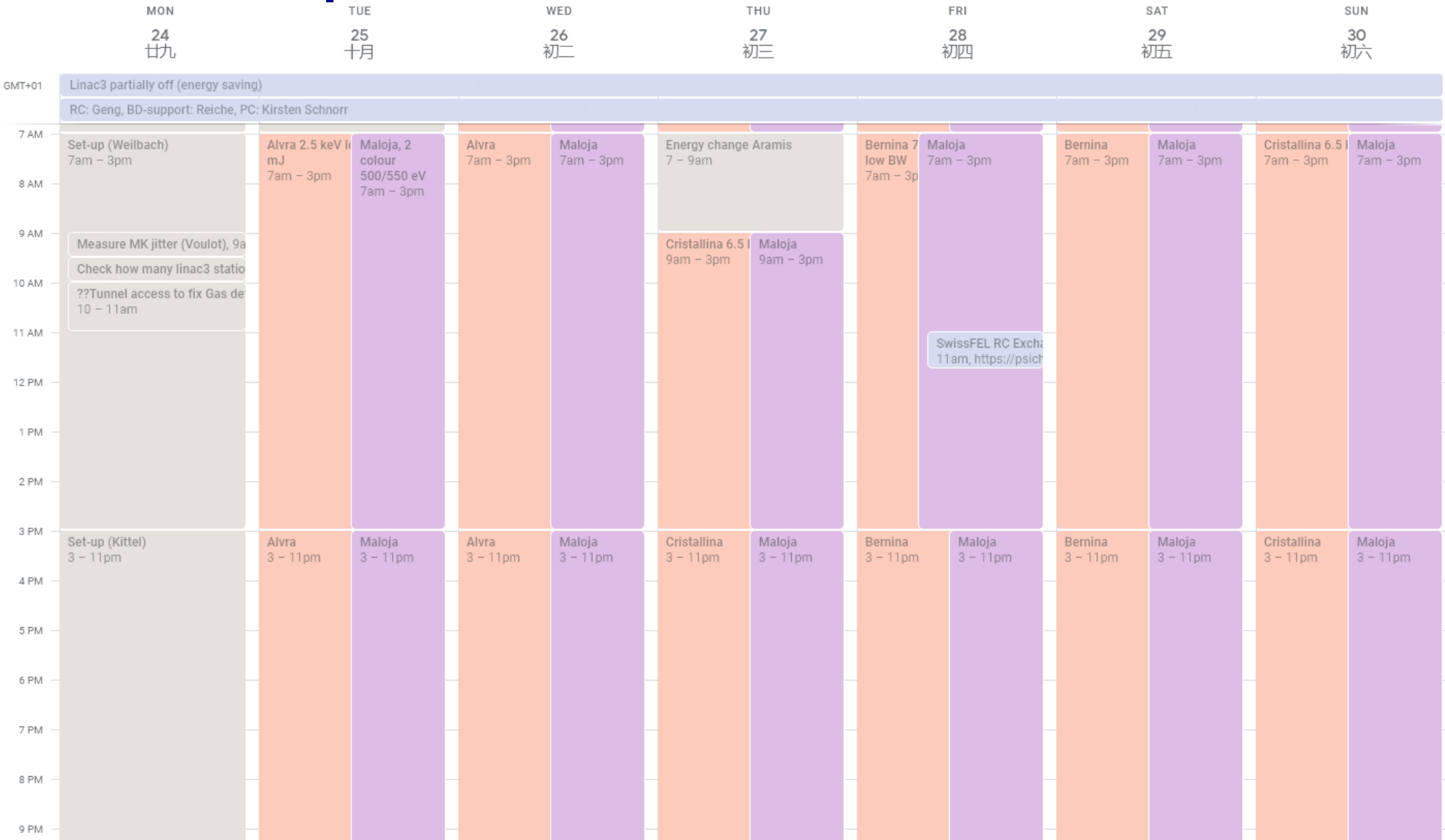


# **SwissFEL Exchange Meeting Machine Report Week 43/2022**

Zheqiao Geng, SEM, 31 Oct. 2022

# SwissFEL Operation Calendar



- Aramis operation as planned
- Athos planned changed:
  - 2-color mode was successfully setup on Thursday
  - Monday to Wednesday – polarization

# User Requests and Machine Setup

## ❑ Aramis

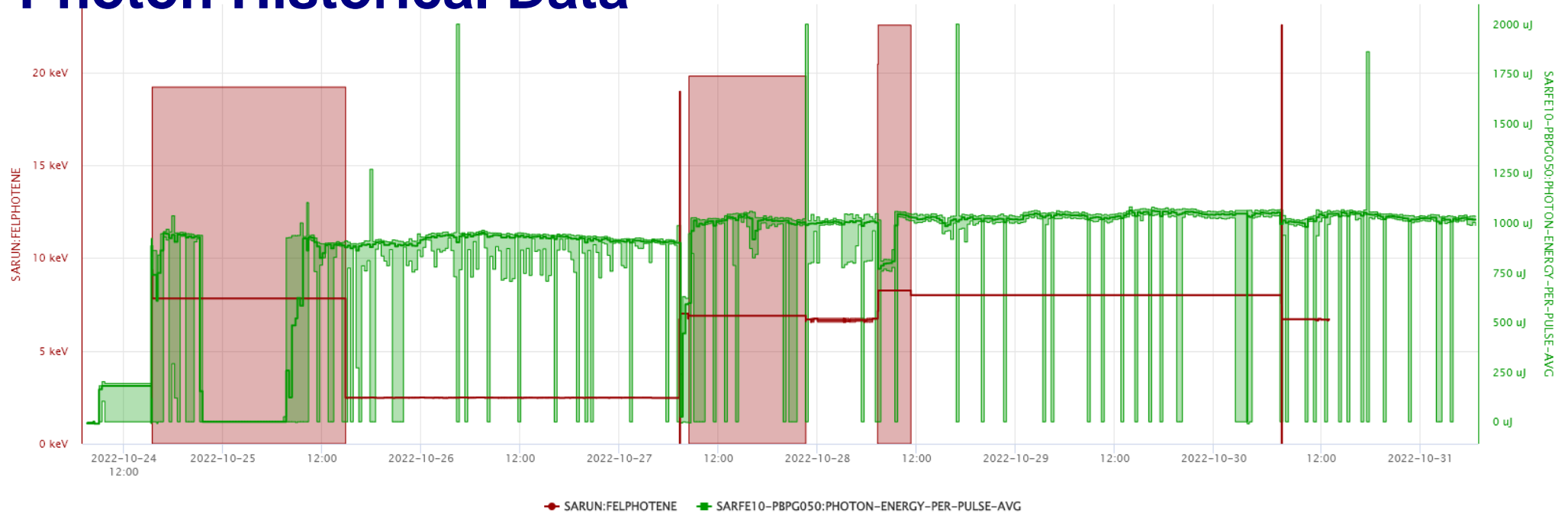
- **Alvra: 2.5 keV, low bandwidth, ~1 mJ, 20-25 fs rms**
  - S30CB03 ~ 13 in blackheating for energy saving
  - Reload 2.5 keV and retune compression on both bunches. We get 940 uJ at 2.5 keV
- **Bernina: 7 keV, low BW, > 800 uJ, 40 fs fwhm, small BW, optimized 50Hz jitter**
  - Check lasing at 7 keV without last 4 linac3 stations we get more than 800 uJ without any tuning and we can reach 8 keV with the K
  - S30CB10 ~ 13 in OFF (later blackheating)
- **Cristallina: 6.5 keV, > 800 uJ, 20 fs rms**
  - S30CB10 ~ 13 in OFF (later blackheating)

## ❑ Athos

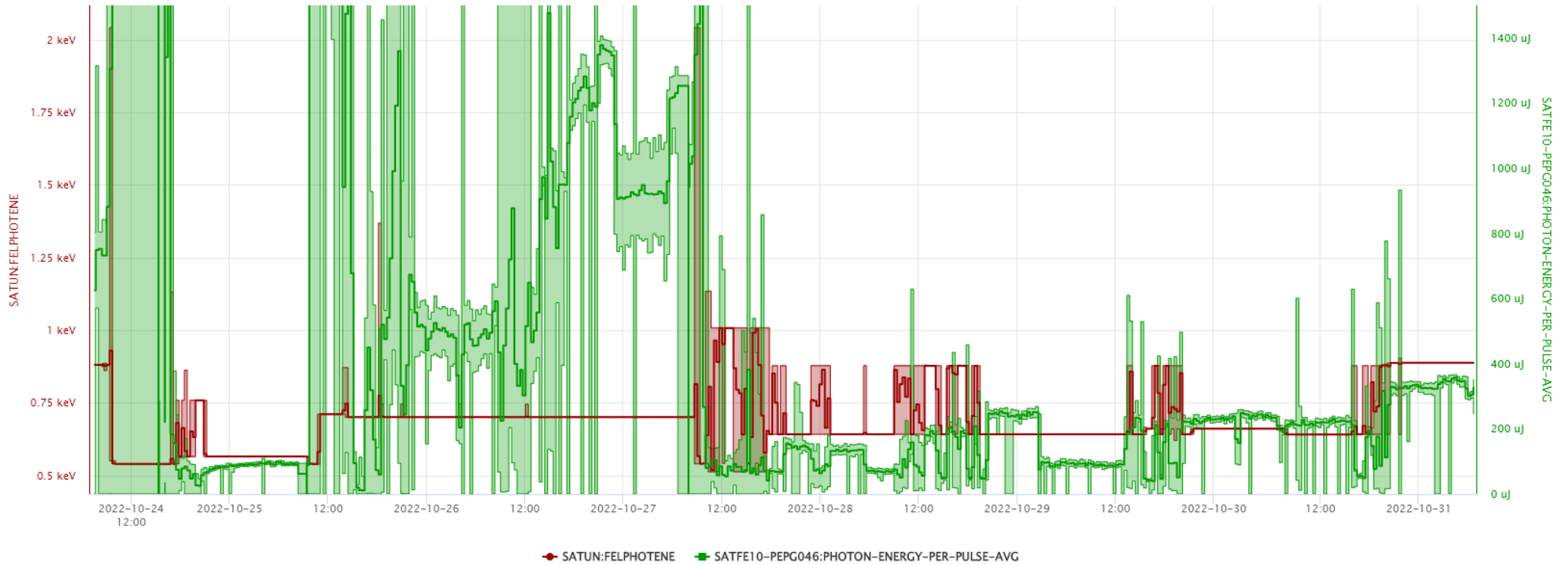
- **Maloja: 2-color mode 500 / 550 eV**
  - Monday setup not successful
  - Determined to postpone 2-color mode to Thursday and setup polarization for plan B

# Photon Historical Data

Data retrieved 2022-10-31 09:57:26.582



Data retrieved 2022-10-31 10:00:50.341



# Technical Issues

- ❑ Tunnel access for repairing Gas detectors. Injector RF stations fell to OFF that needed 1 hour heating time. **Should inform RF when making longer tunnel access, so that they can extend the filament->OFF waiting time**
- ❑ Mirror blocked in Aramis, slightly delayed the pointing check and BW optimization for Alvra
- ❑ FEL shutter closed multi-times without alarm due to wrong configuration of Aramis Photonics Mode Monitor
- ❑ SINSB04 high amplitude jitter (**reasons found, partly mitigated, will further optimize during maintenance days in this week**)
- ❑ Dechirper (S30CB15-UDCP200) position alarm, determined not to touch during weekend