

PAUL SCHERRER INSTITUT



SwissFEL Performance Workshop - Discussion

26. January 2022

Discussion points – some suggestions

- Operations
 - Parallel operations? Where are the problems?
 - Operations planning? Are we missing things?
 - Can we improve the synchronization during the planning phase and operations?

- Front end layout and diagnostics
 - Do we have all the devices we need
 - Are we having a coherent alignment and pointing strategy
 - Are we ready for the gas attenuator installation in Athos

- Experimental strategies
 - Energy scanning, undulators or beam energy?
 - Beam loss control
 - Dark currents

- MD/ commissioning planning and priorities?

Discussion summary

- Operations
 - Parallel operations is a unique capability and important for the top priority of maximum scientific output and efficiency. Stable parallel operations is also central for the future Porthos project.
 - There are challenges and limitations related to parallel operations but the impact in terms of cross talk is not yet fully understood and studied. Sufficient MD time is needed for this aspect.
 - We can always improve our planning and communications. We need a better feedback loop during the scheduling process with the BD group and beam parameters need to be reflected in the planning sheets. We can also limit beam parameters in proposal call.
 - In addition to optimizing the existing planning process we should also consider a intermediate time horizon planning meeting, in addition to the weekly SEM and half-year scheduling process.
 - A beamline ready day during the start up period would be beneficial.
- Front end layout and diagnostics
 - The ongoing efforts of reshuffling the beamline components are addressing many of the bottlenecks and should be followed with priority. More new topics (broader bandwidth for PSSS, TXSS, etc) are under way.
 - The Athos pointing and alignment efforts have led to great improvements. The stability will be observed and then we can give go/no-go for gas attenuator installation for April shutdown.
- Experimental strategies
 - An nice summary of possible improvements has been compiled by BD groups and some aspects (e.g. shielding) are already actively tackled.
 - Scanning strategy changes will come along with further improvements of the final Athos accelerator modules.
- Final conclusion: it has been a good year for SwissFEL, thanks everyone for the great work. We are all looking forward to a productive and successful year 2022!

**My thanks go to all at
SwissFEL**

