

PSI Center for Neutron and
Muon Sciences

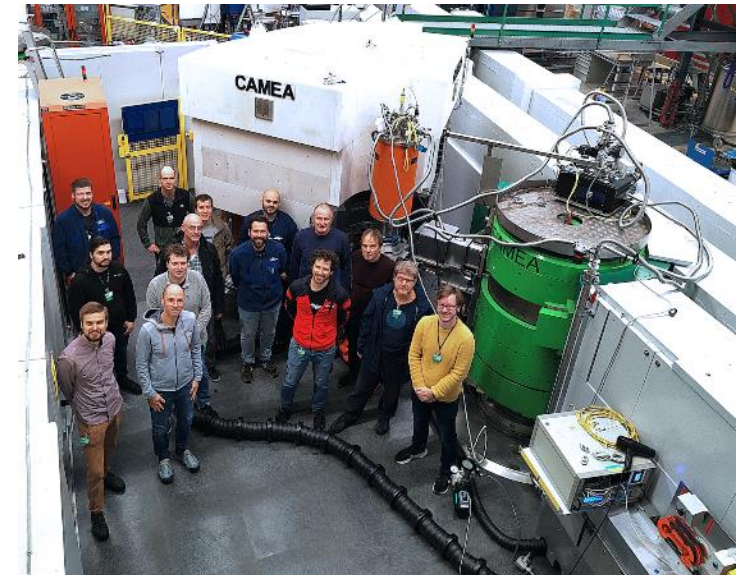
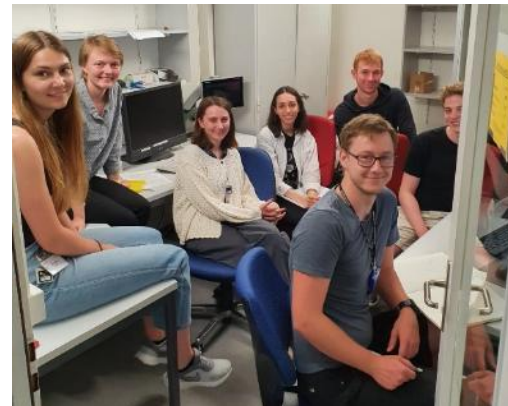
The early days on CAMEA

Experiences



Jakob Lass – Main responsible CAMEA

My Role at CAMEA/PSI



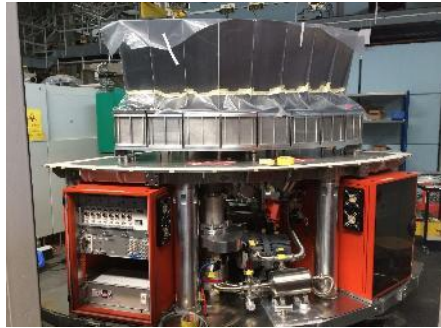
The CAMEA Team

- Alex Bollhalder
- Marcel Schild
- Urs Greuter
- Gerd Theidel
- Marek Bartkowiak
- Emmanouela Rantsiou
- Masako Yamada
- Mark Koennecke
- Michele Brambillo
- Márton Markó
- Markus Zolliker
- Paul Schurter
- Silvan Stamm
- Felix Fehrenbacher
- Peter Keller
- Raphael Müller
- Roman Bürge
- Manuel Lehman
- Stefan Mathis
- Marcel Schild
- Robin Mühleback
- Alexander Söderqvist
- Sven Schlienger
- Edward Wall
- Uwe Filges
- Christian Rüegg
- Sandor Toth
- Jonas Birk
- Marc Janoscheck
- Michel Kenzelmann
- Henrik Rønnow
- Kim Lefmann
- Rasmus Toft-Petersen
- Mads Bertelsen
- Kristine Krighaar
- Nicolai Amin
- Luc Testa
- Virgile Favre
- Henrik Jacobsen
- Rafal Wawrzynczak
- Daniel Mazzone
- Christof Niedermayer
- Jinchen Wang
-

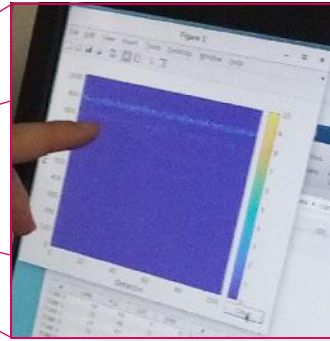


Peter Keller Christian Kägi Dieter Graf Frank Herzog
Roman Bürge Manuel Lehmann Rafael Müller

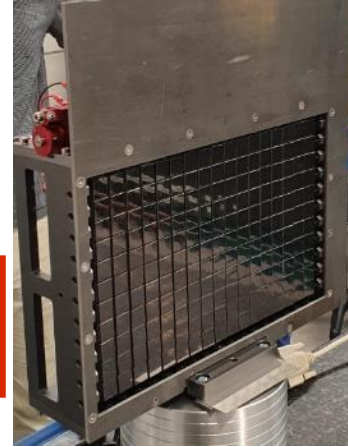
Commissioning Timeline



First Neutrons
Hot Commissioning



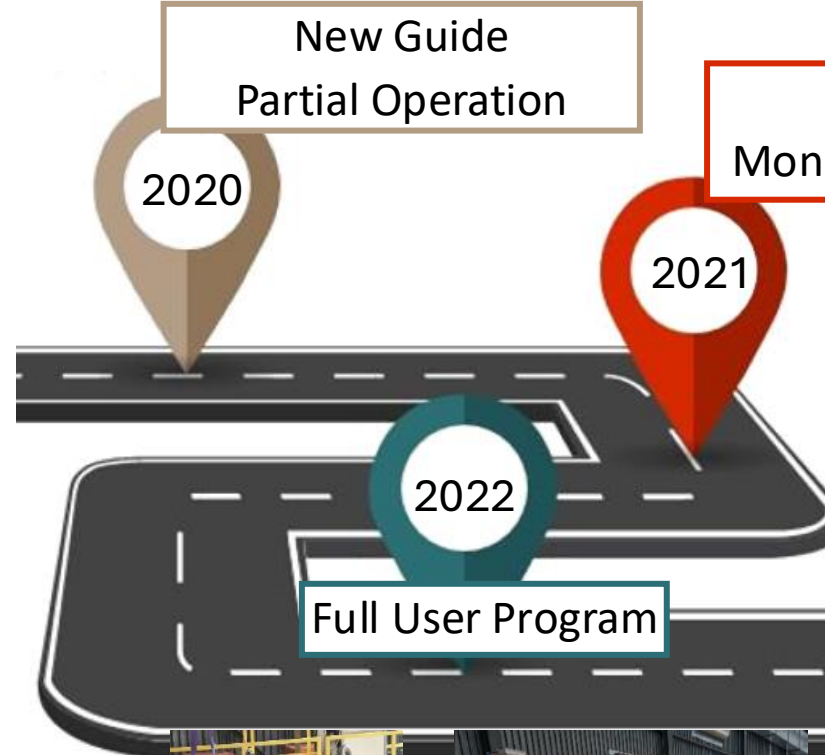
New Guide
Partial Operation



New
Monochromator



Design
Building



2020

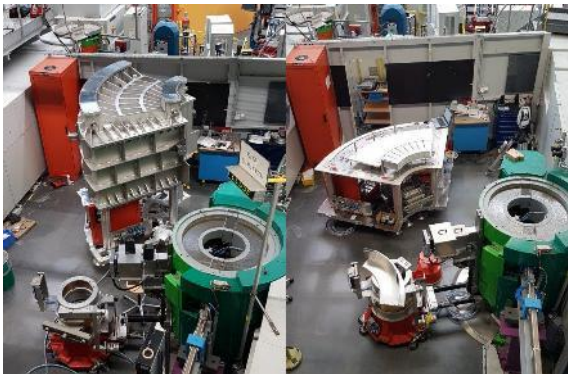
2021

2022

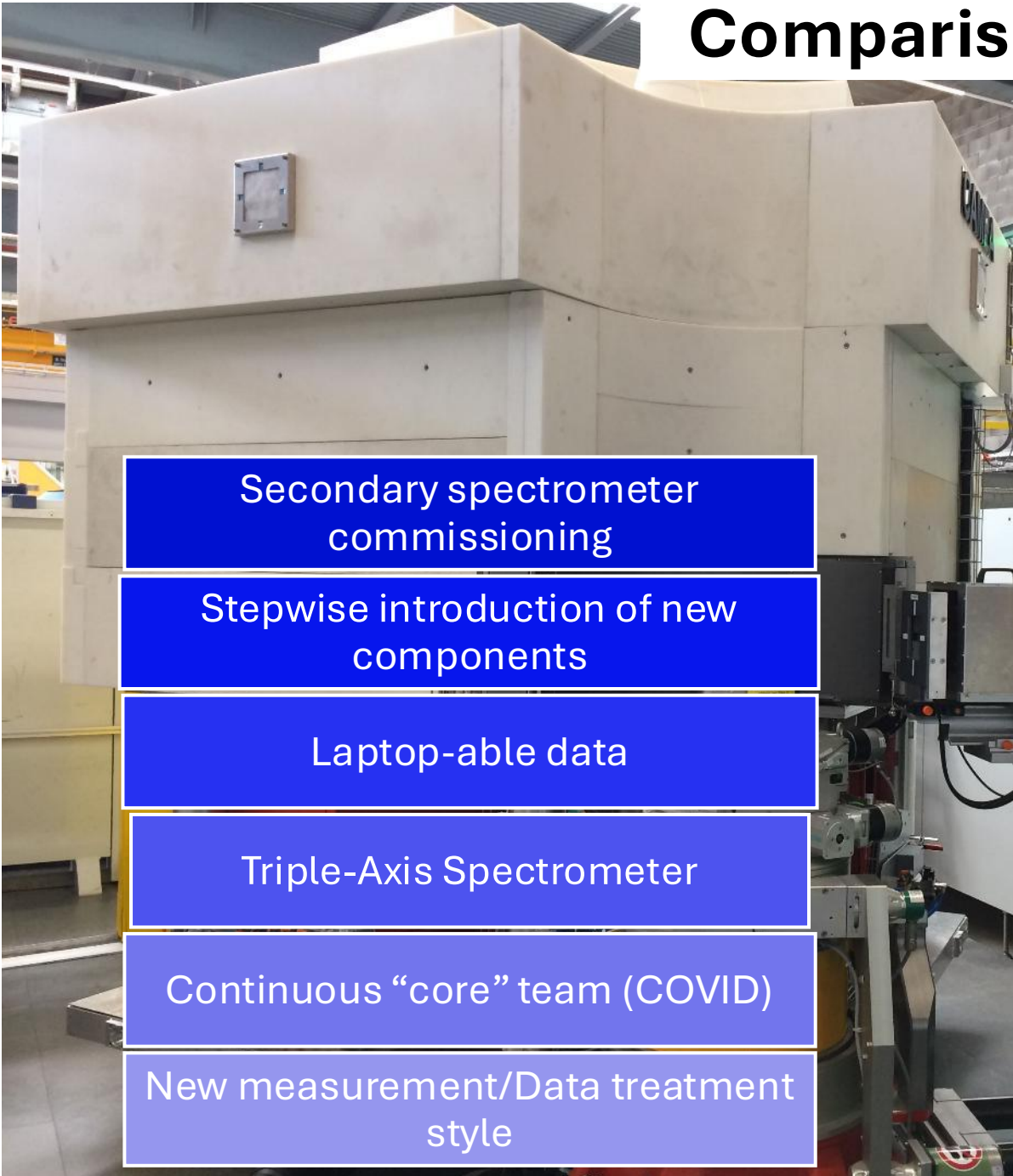
2024

Full User Program

"Steady" State



Comparison to BIFROST



Secondary spectrometer
commissioning

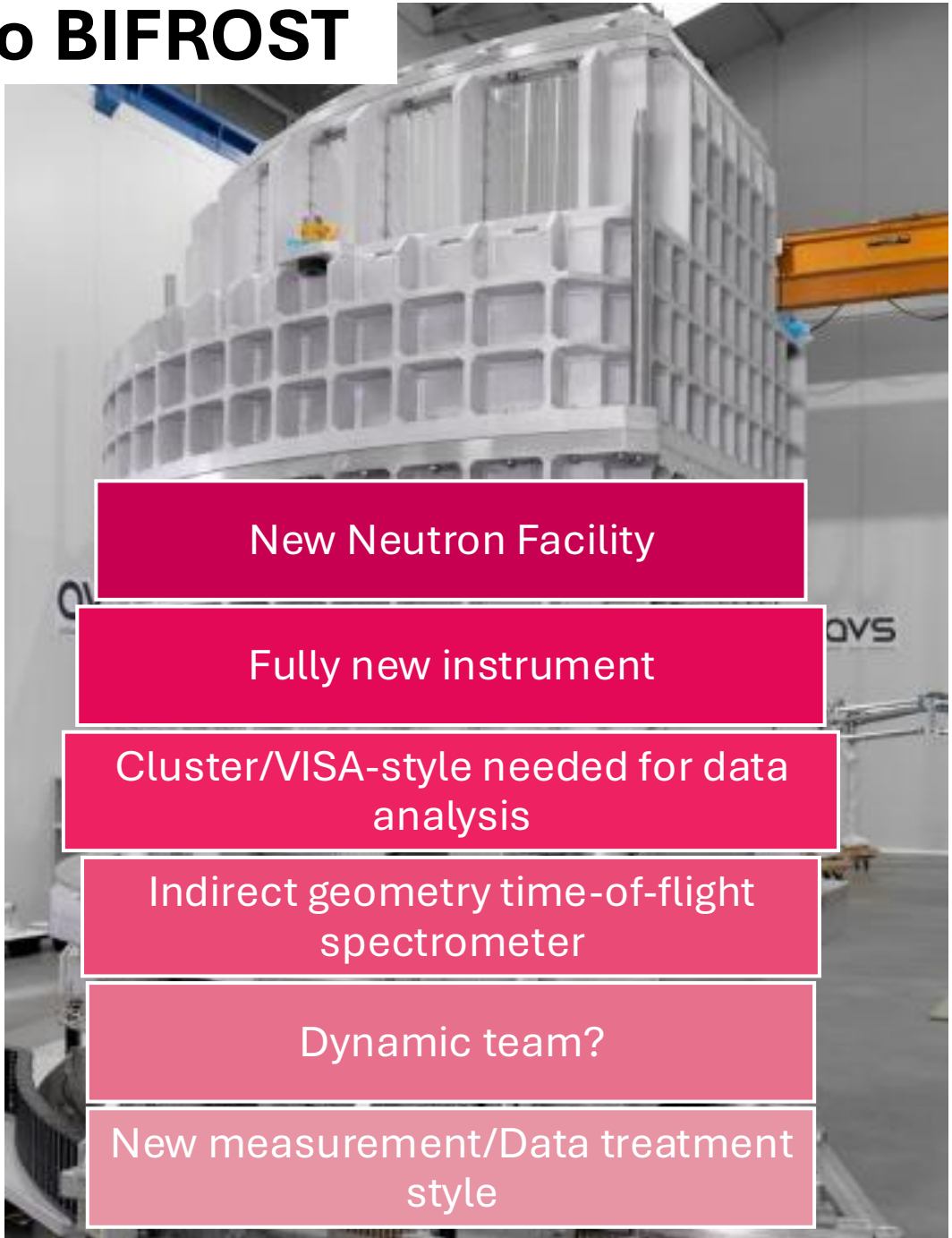
Stepwise introduction of new
components

Laptop-able data

Triple-Axis Spectrometer

Continuous “core” team (COVID)

New measurement/Data treatment
style



New Neutron Facility

Fully new instrument

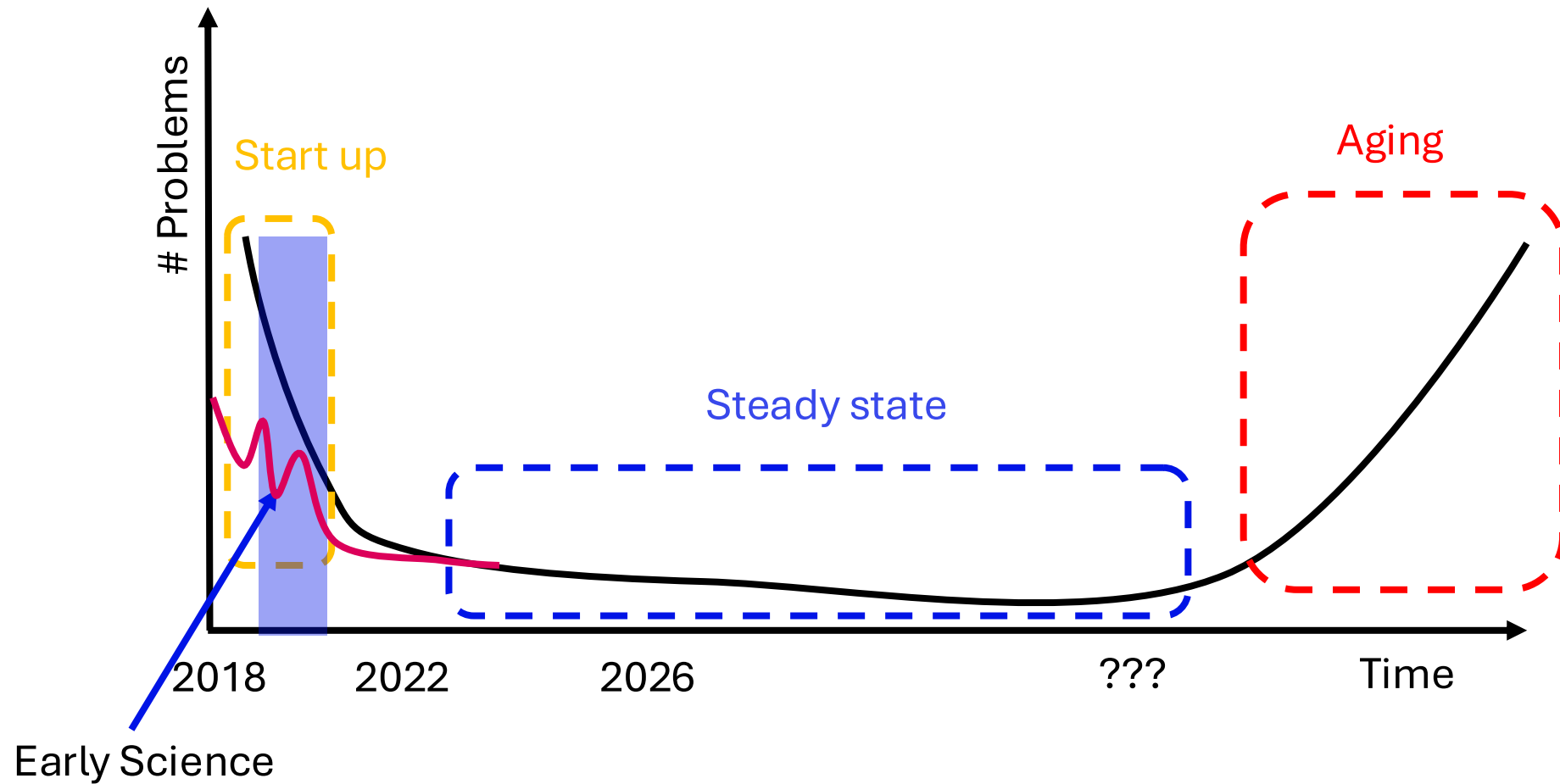
Cluster/VISA-style needed for data
analysis

Indirect geometry time-of-flight
spectrometer

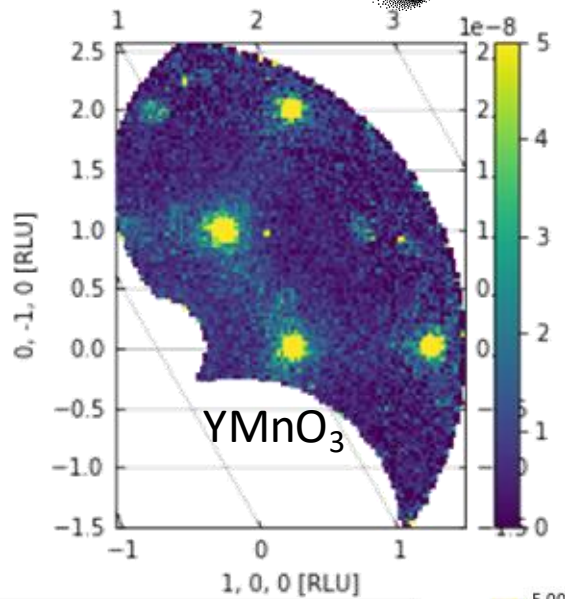
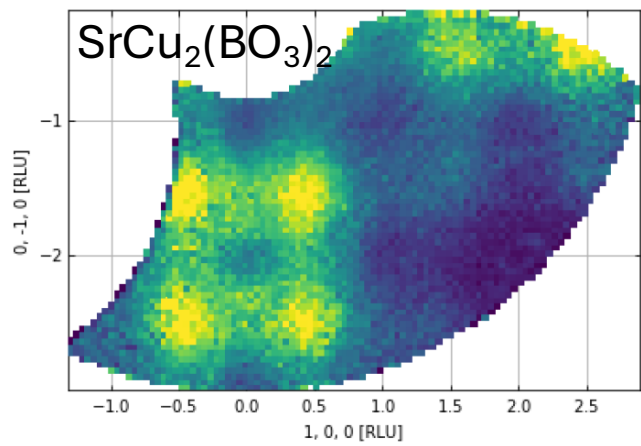
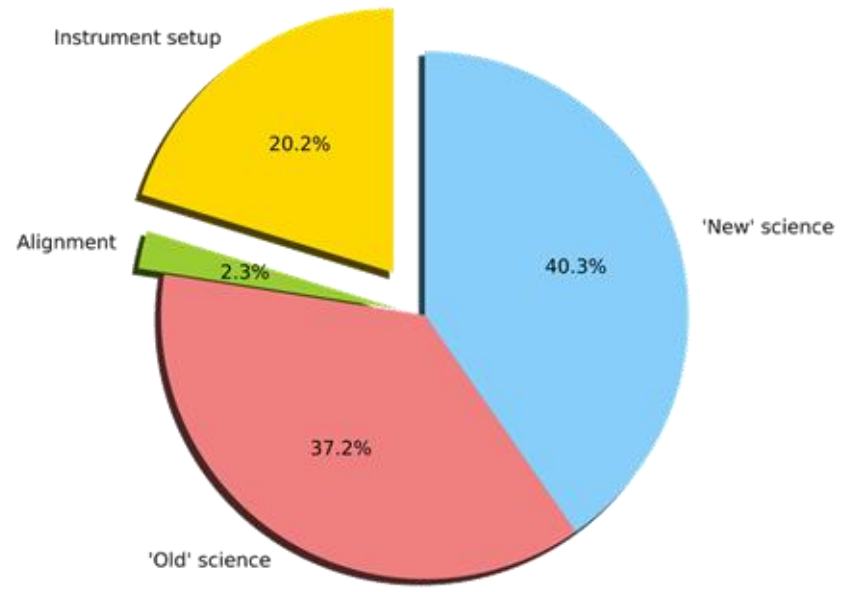
Dynamic team?

New measurement/Data treatment
style

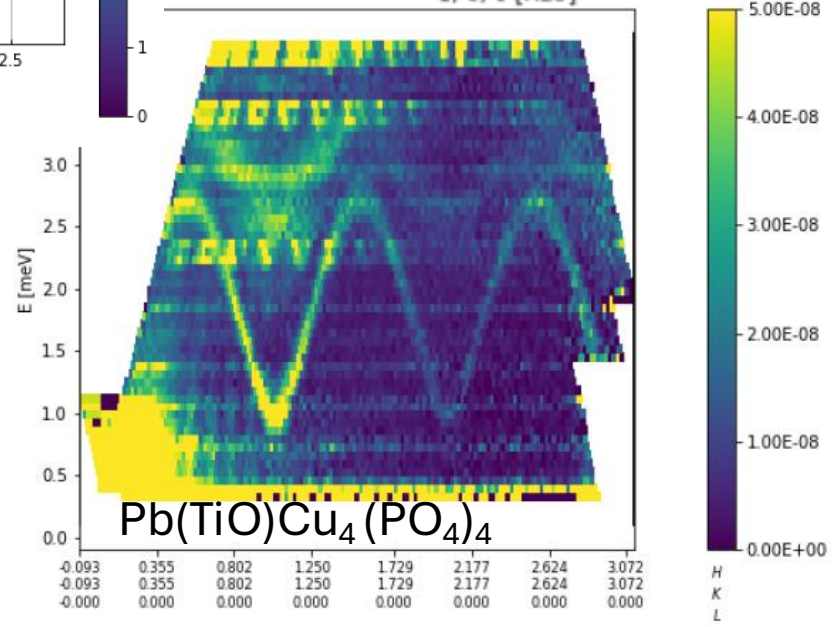
Time perspective



Internal Commissioning 2018



Scientific samples measured	11
Beam Days	~ 40 (unstable beam and planned down time)
Measurement time saved in files	33 days, 17 hours, 50 minutes
Data files acquired	500
Scan points	31 087
Total data points	3 310 641 152
Samples measured	AlO, BaCuSiO, K ₂ Ni ₂ (SO ₄) ₃ , LaSrCuO (5%), MnF ₂ , Ni ₃ TeO ₆ , PHO, PbTi, Plexi, SeCuO, SrBaCuSiO, SrCu ₂ (BO ₃) ₂ , Vanadium, YMnO ₃ , YMnO ₃ (Eu)



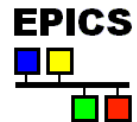
Commissioning (Actually)



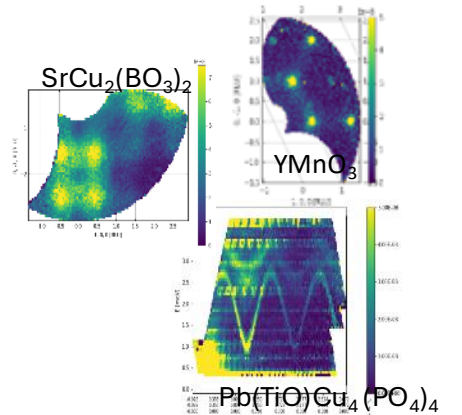
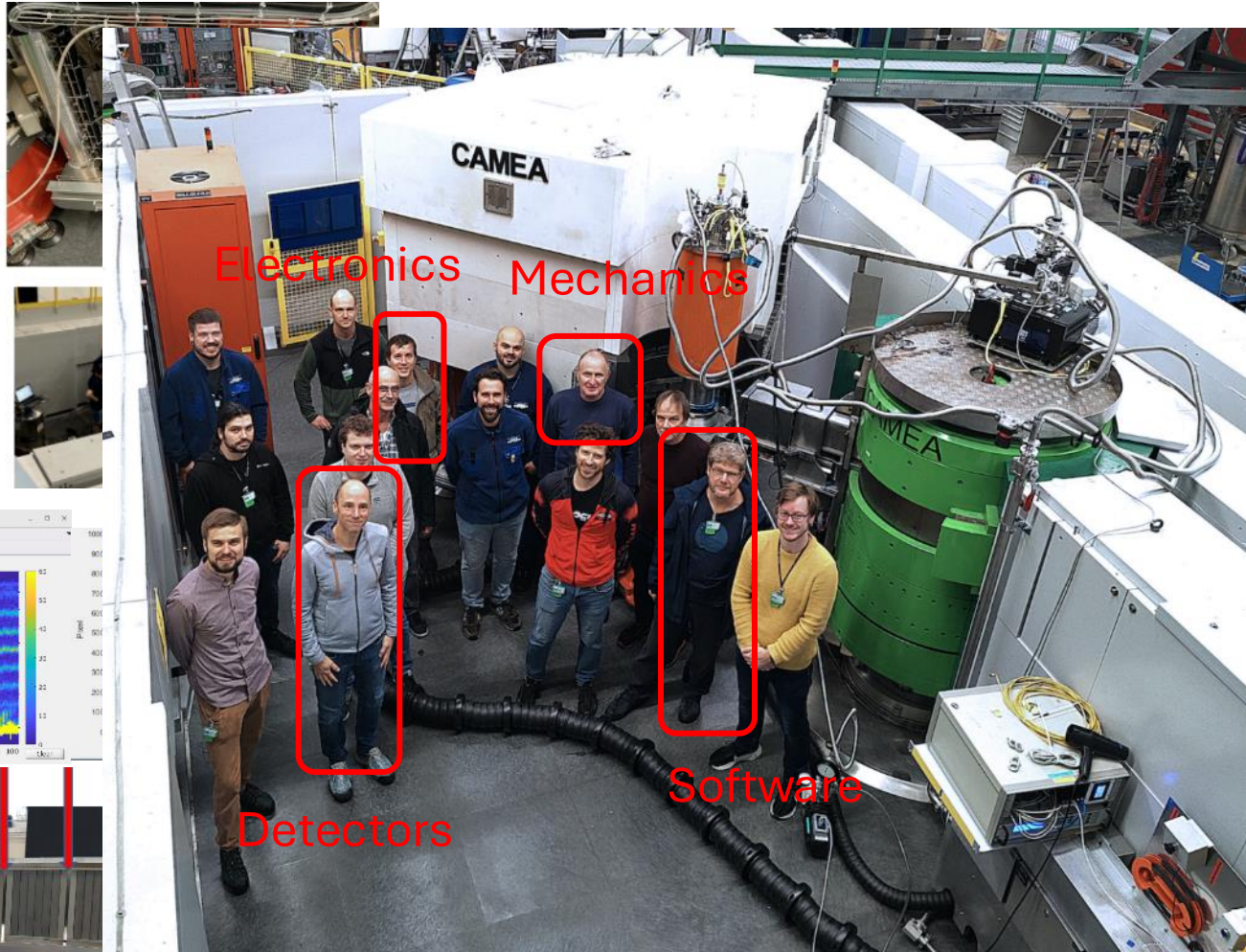
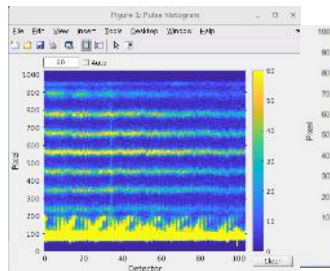
Mechanical Challenges

Technical Challenges

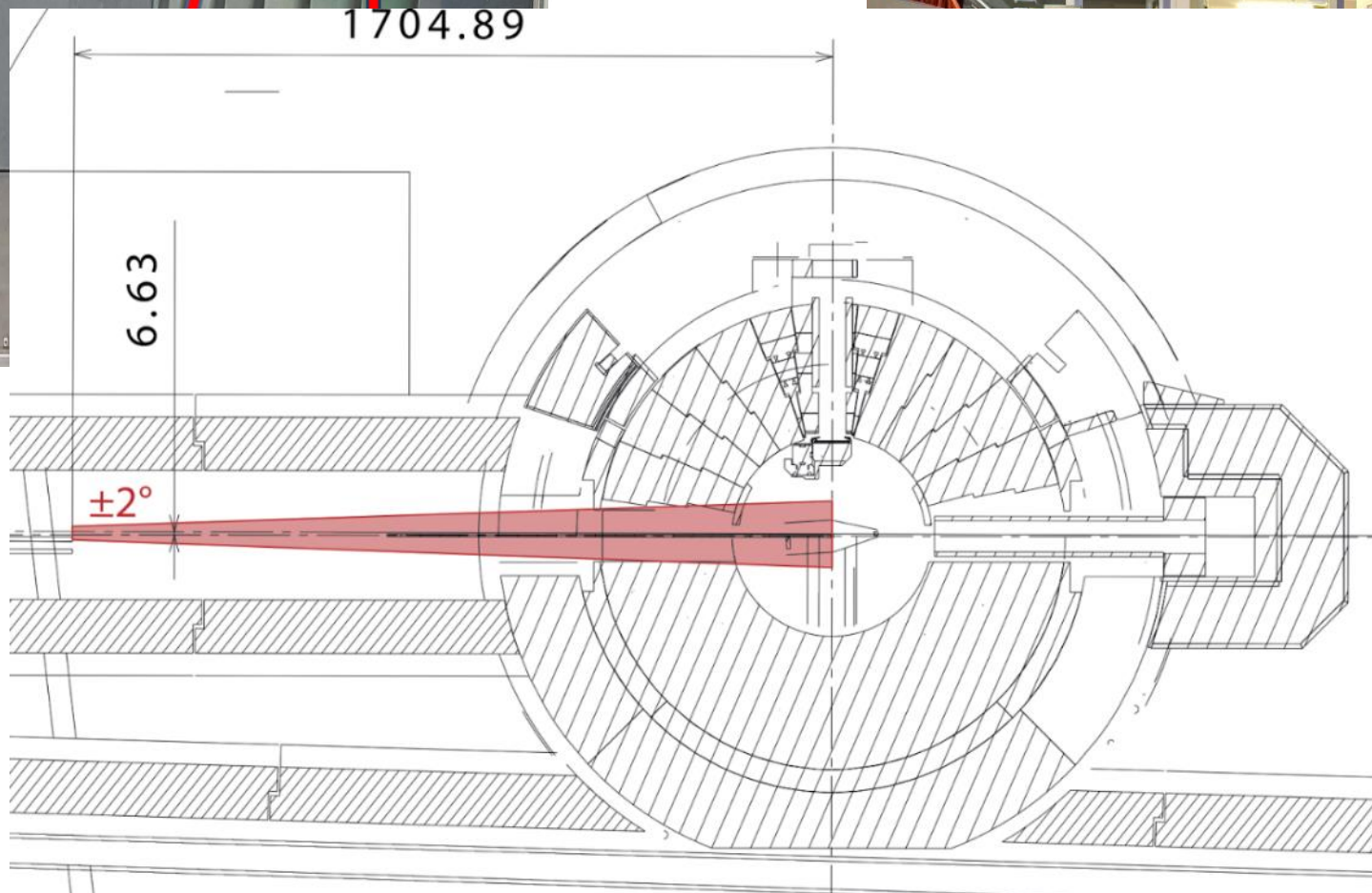
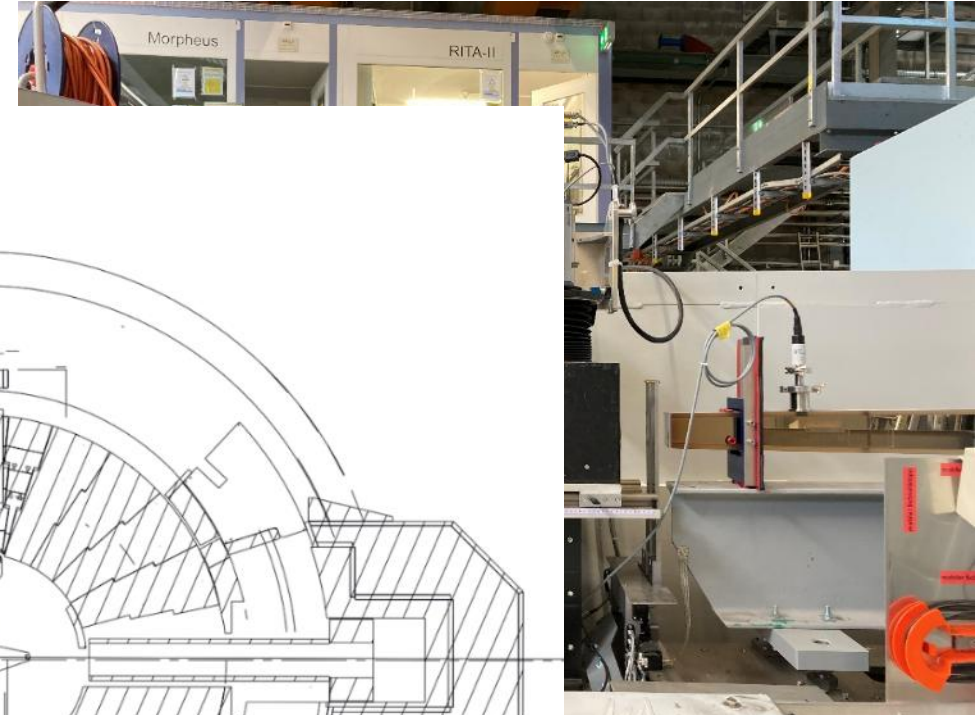
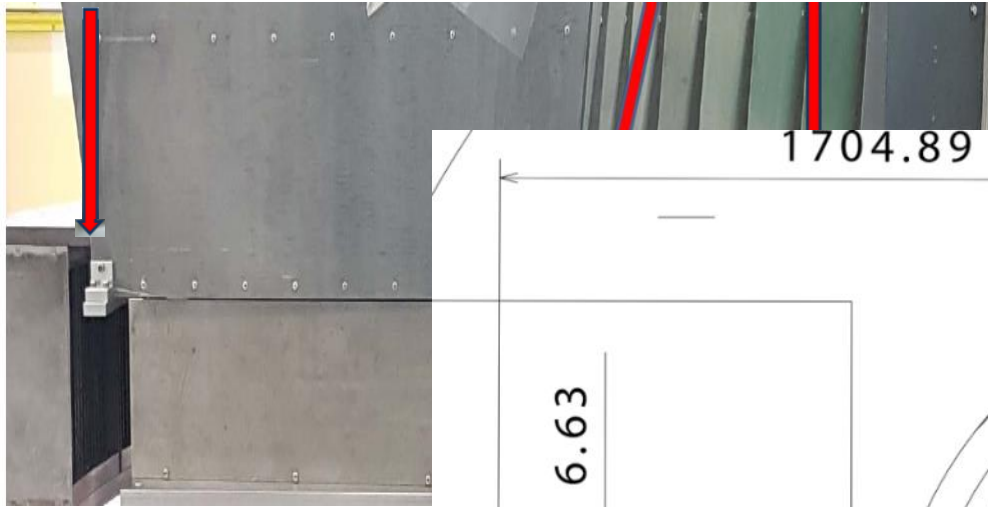
Scientific Challenges



SICS



Design Mistakes

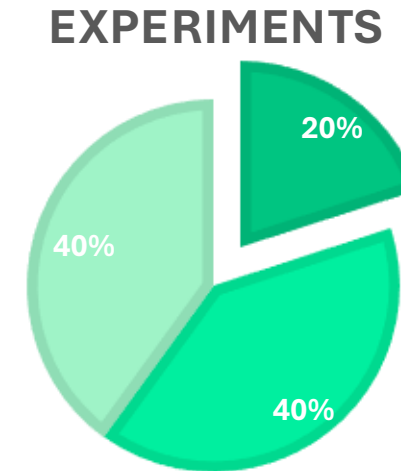


Early Science 2018-2021



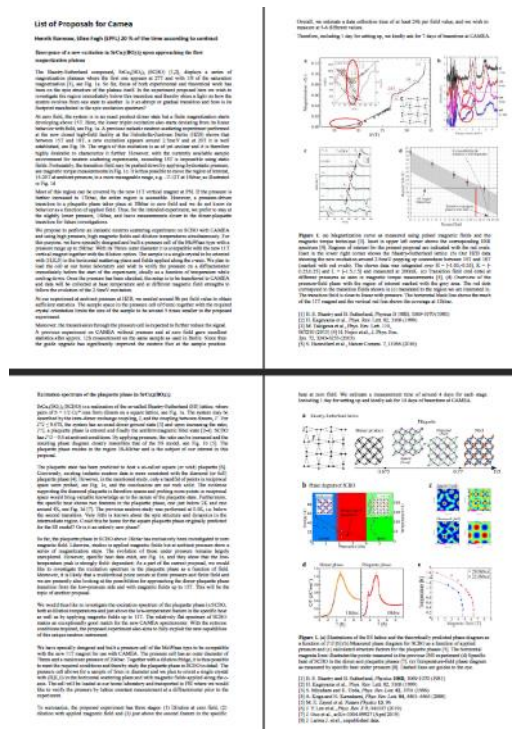
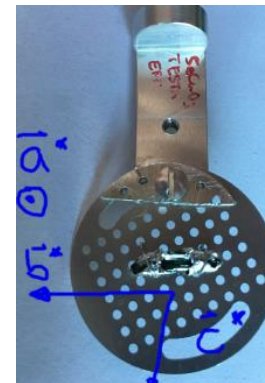
Internal Proposal-like system

Samples available at instrument

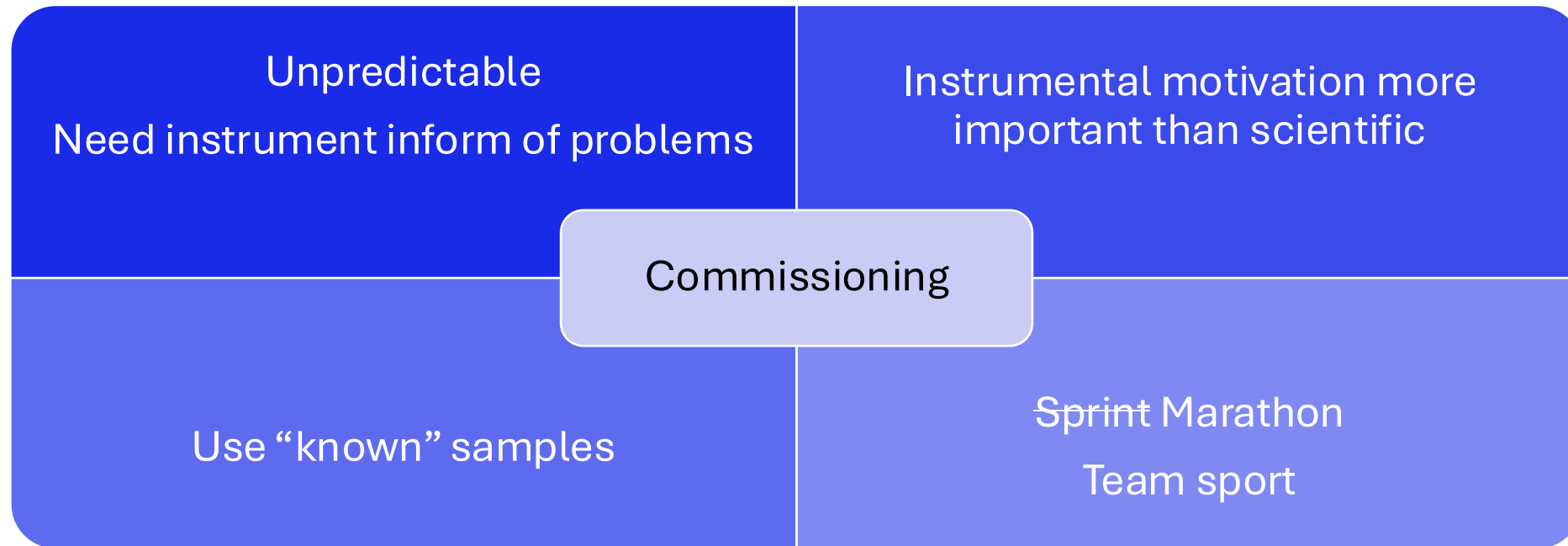


■ Commissioning ■ Proposals ■ Internal

Remote experiments (Covid)



Initial Phases - Lessons Learned

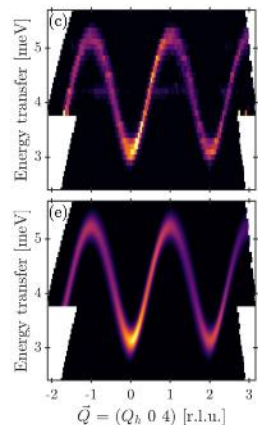


Hot commissionings - Science commissionings

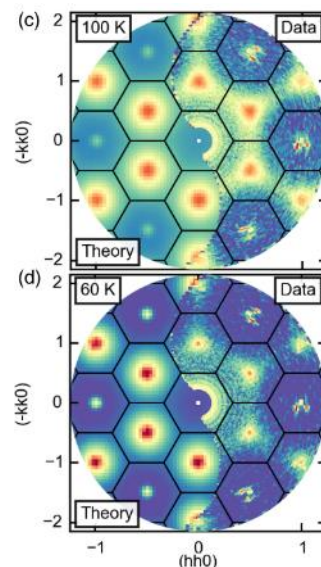


Integration/Signal to noise

Compare to theory

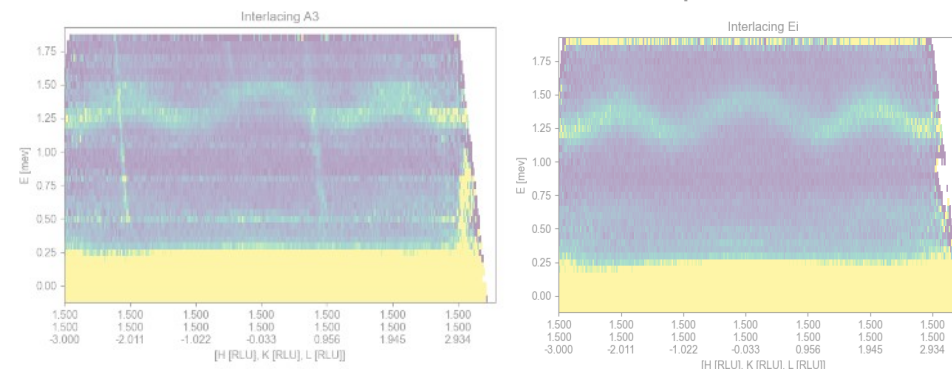


S. Allenspach et al. (2021). *PRR*, 3(2), 1–18.
10.1103/PhysRevResearch.3.023177

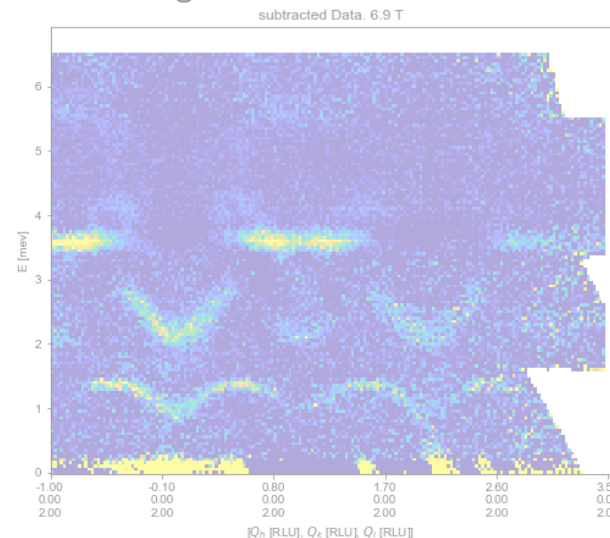


S. Janas et al. (2021). *PRL*, 126(10), 1–6.
10.1103/PhysRevLett.126.107203

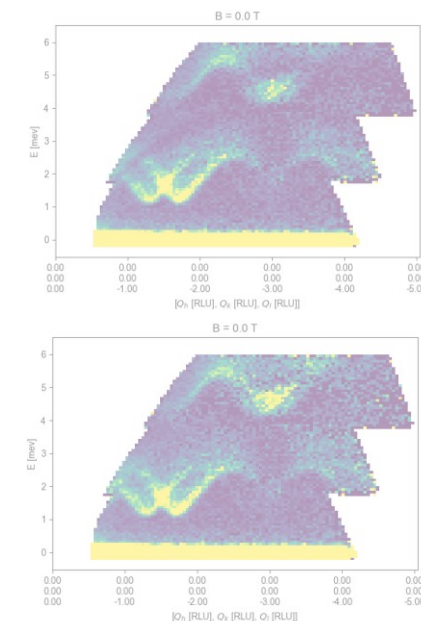
Measurement technique



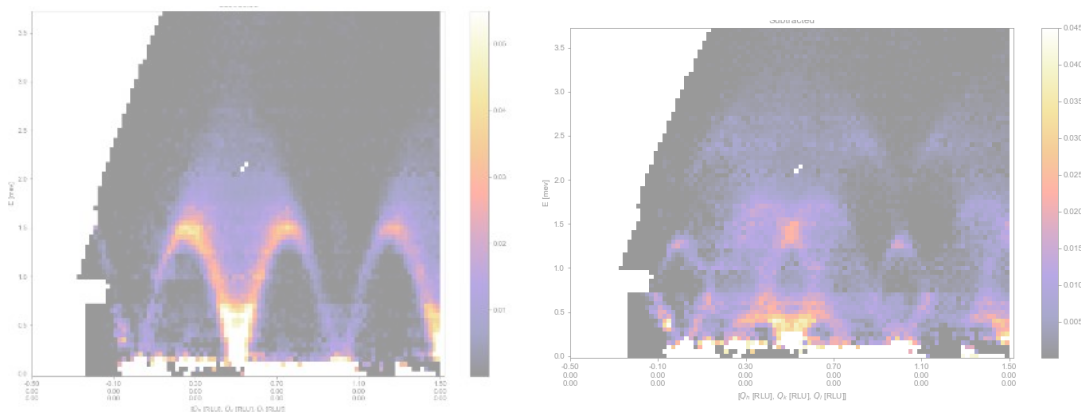
Background subtraction



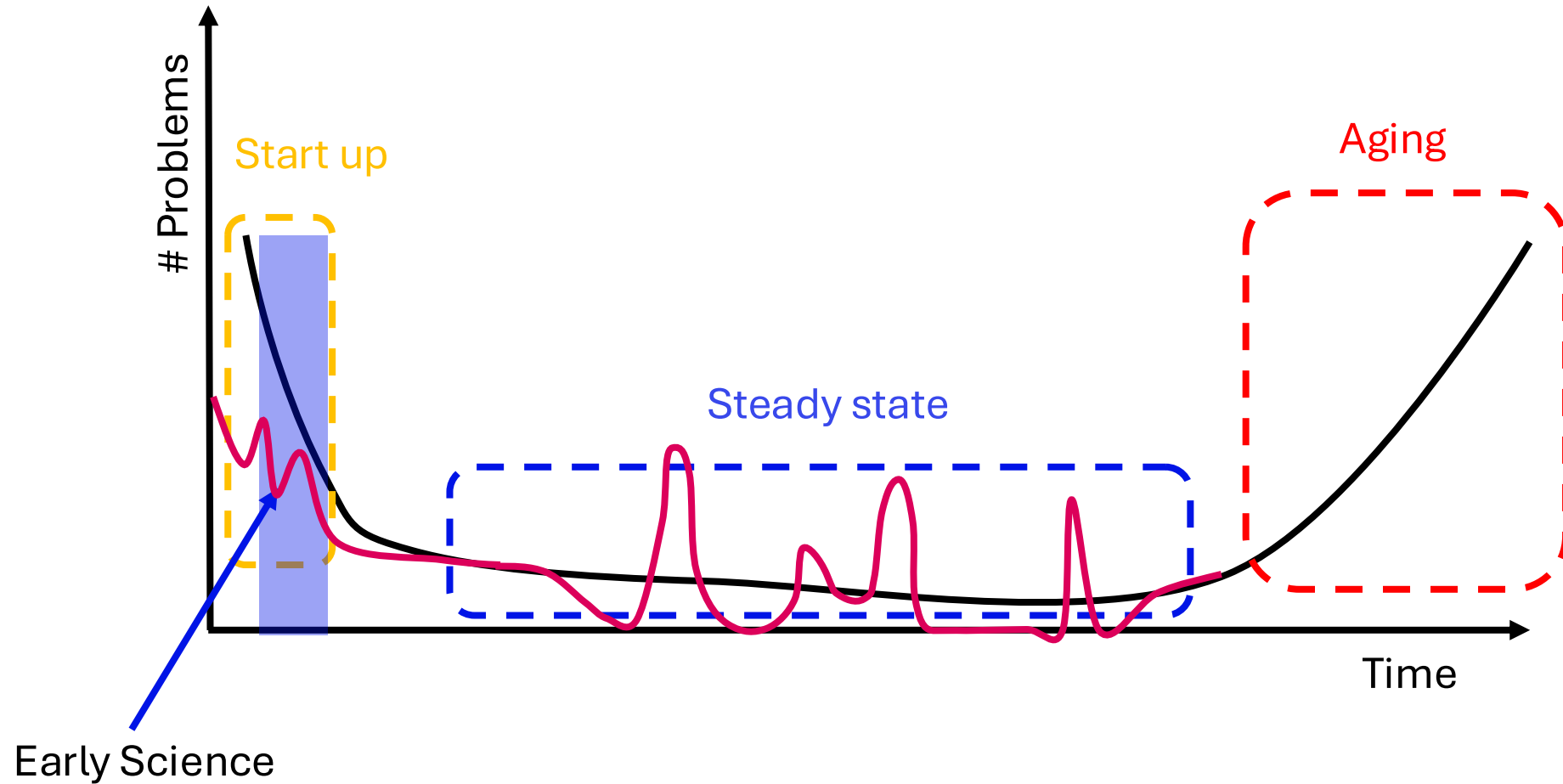
Absorption correction



1D systems/Masking



Time perspective – Bathtub of Problems

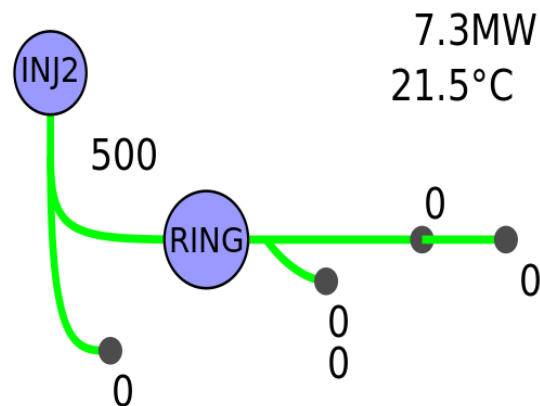


"Steady" State Anecdotes

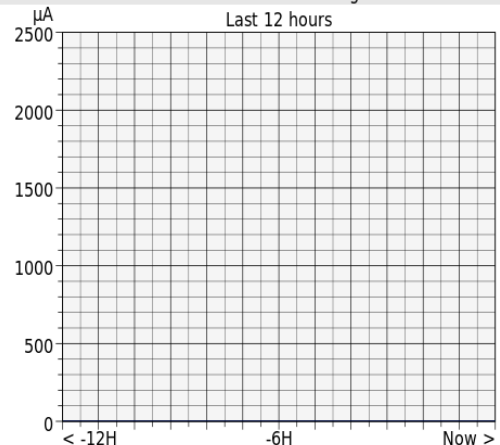


High Intensity Proton Accel.

24.Aug 2026 13:30:26



7.3MW
21.5°C



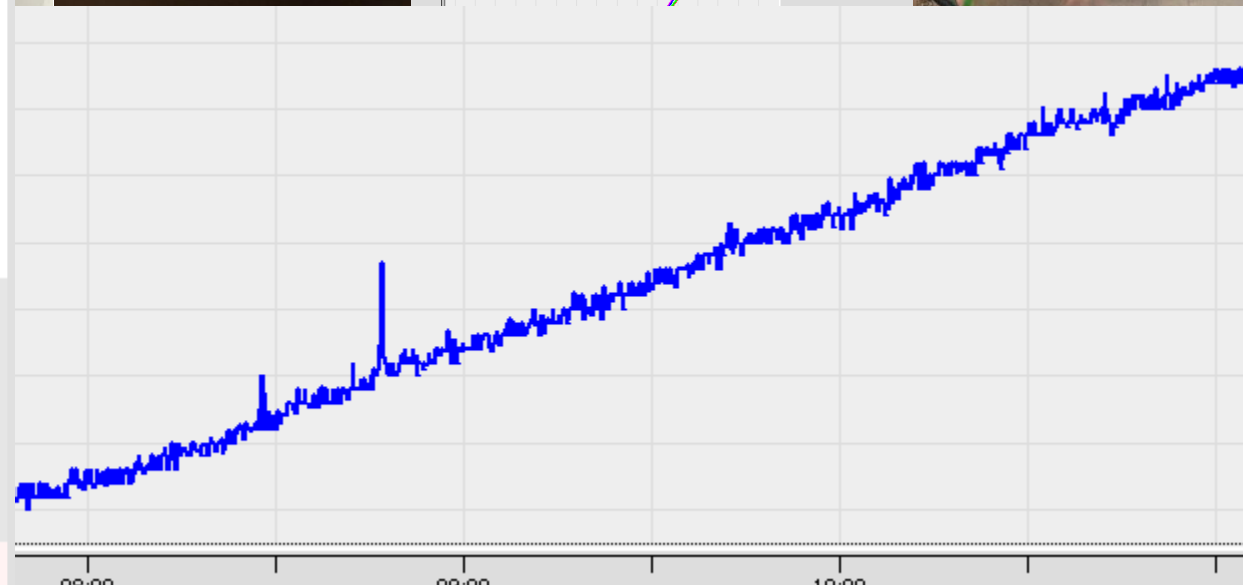
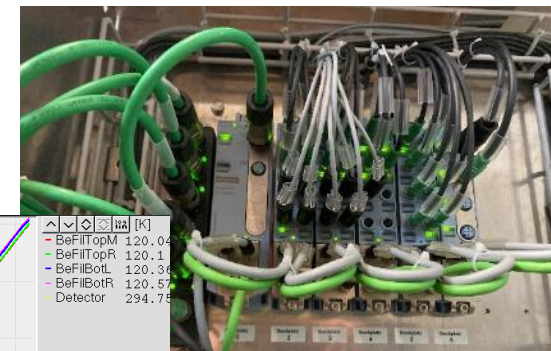
INJ2 : Setup
RING : idle
SINQ : idle

IP : idle
UCN : stopped

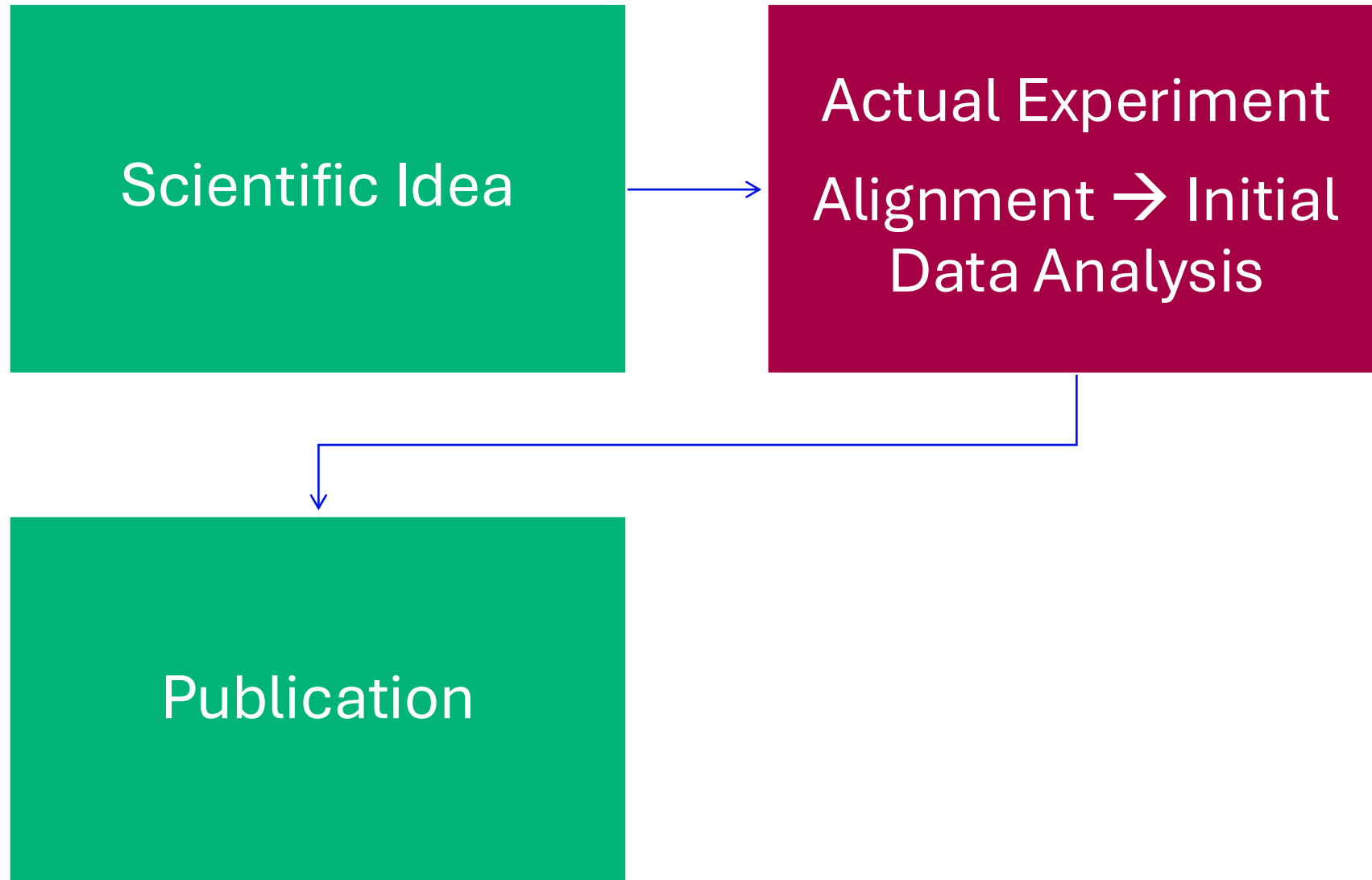
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*****
*          magnets cycling          *
*          next message             *
*                               14:05
*****
  
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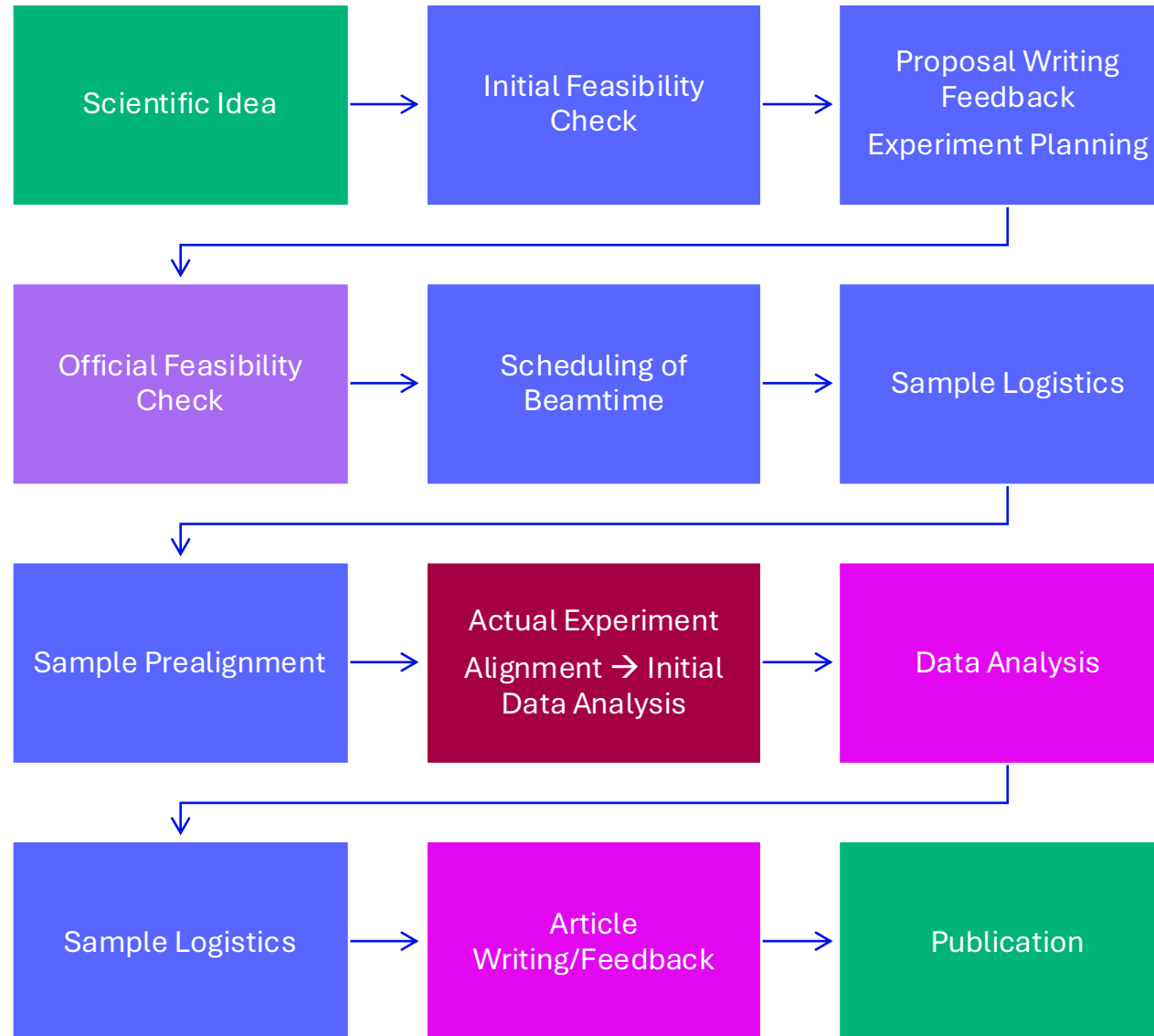
Mon 07:02 : >2 STD UNTERBRUCH



Experiment Life Cycle



Experiment Life Cycle - Instrument Scientist PSI



"Just a regular day in the office"

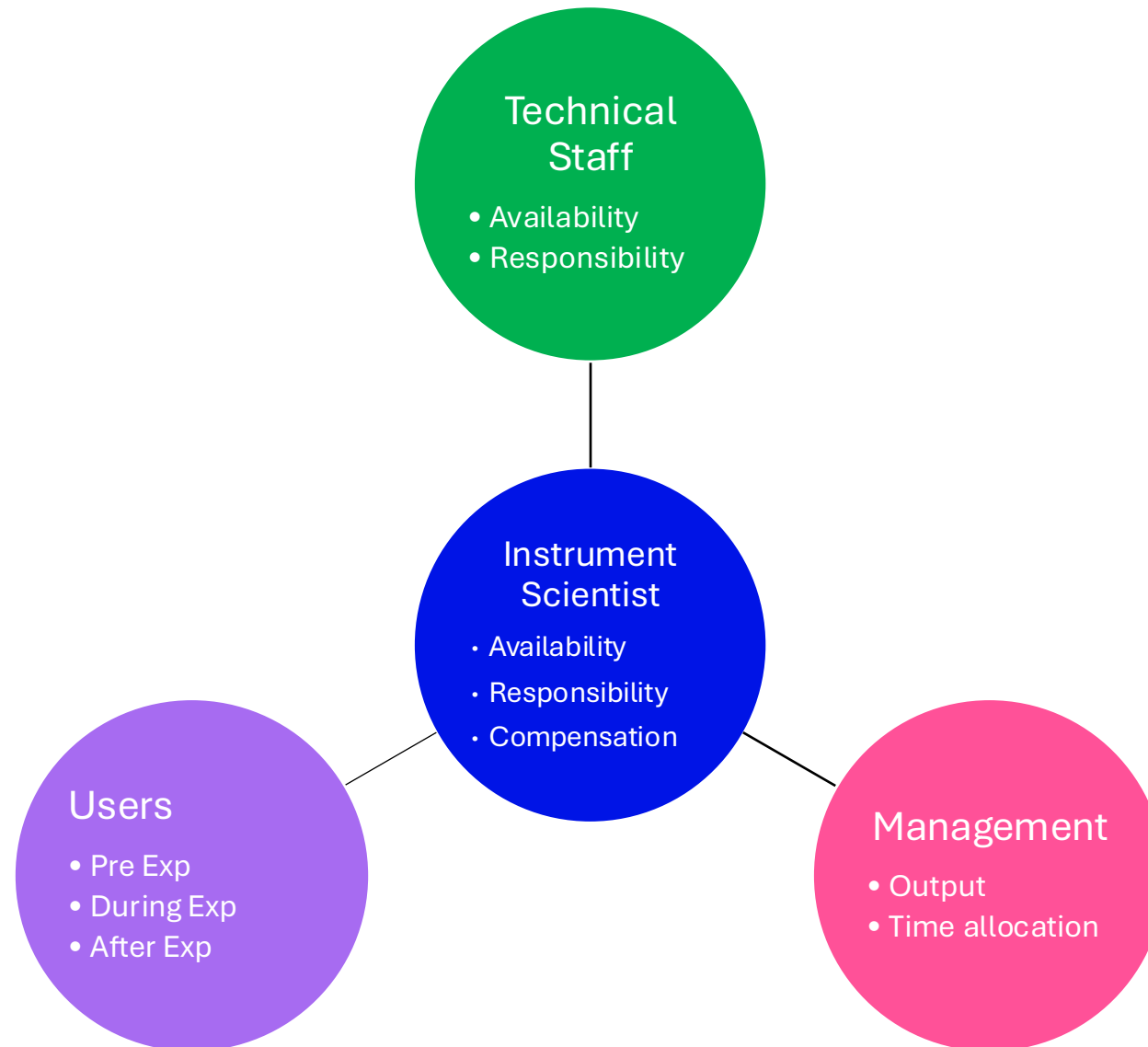


CAMEA Schedule Sep – Dec 2025

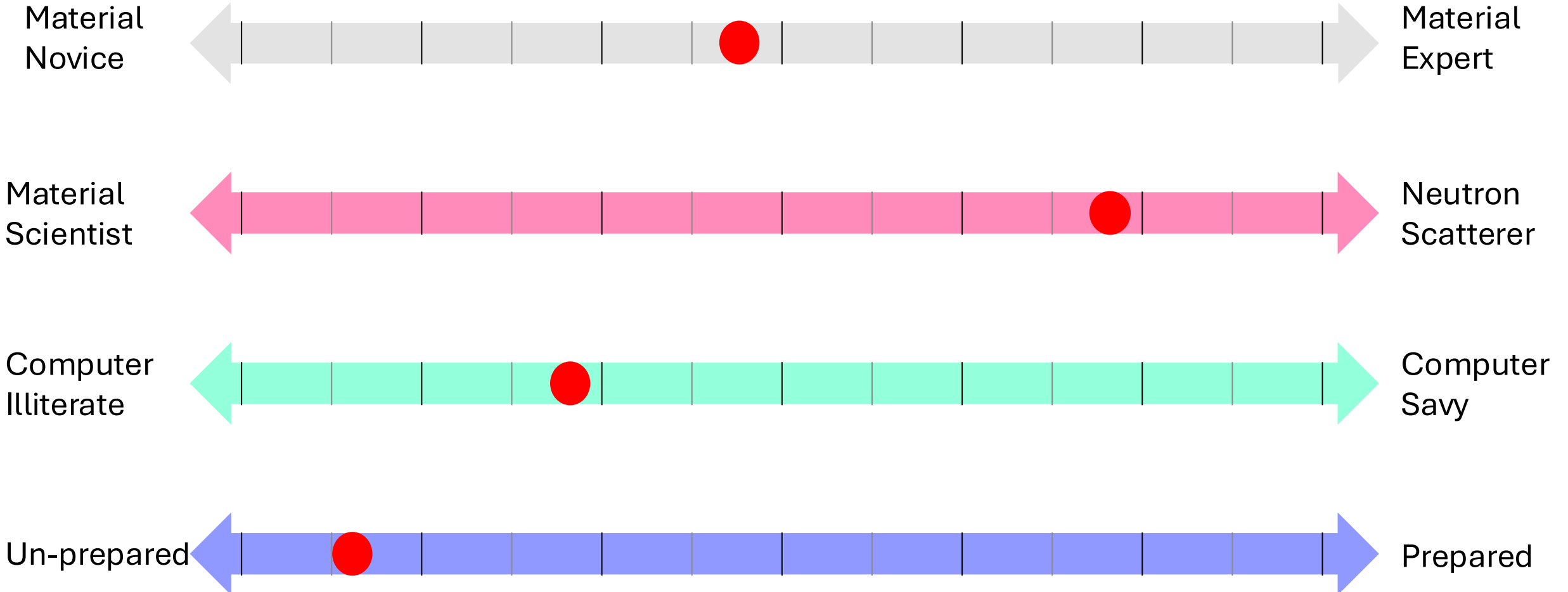
September							October							November							December																									
Mo 1	Low energy topological helimagnon modes of a cubic chiral insulator Baral 2025 0338 (7d) (Lass) p22635 MA02						We 1	Field dependence of the magnetic excitations in a kagome-like copper system Pisani 2024 1518 (5d) (Lass) p22294 MB11						Sa 1	Hidden order in ReB2C2 Lass 2025 0758 (8d) (Lass) p22758 MB11						Mo 1	Summary Maesen 2025 0388 (12d) (Mazzone) p22637 ORI3																								
Tu 2							Th 2	Fr 2	Sa 2	Su 2	Tu 2	Th 2	Fr 2	Sa 2							Su 2	Mo 2	Th 2	Fr 2	Sa 2	Su 2																				
We 3							Th 3	Fr 3	Sa 3	Su 3	Mo 3	Th 3	Fr 3	Sa 3							Su 3	Mo 3	Th 3	Fr 3	Sa 3	Su 3																				
Th 4							Fr 4	Sa 4	Su 4	Mo 4	Th 4	Fr 4	Sa 4	Su 4							Mo 4	Th 4	Fr 4	Sa 4	Su 4	Mo 4																				
Fr 5	MB11 Force test and Vanadium Normalization Lass 2025 0920 (3d) p22911 MB11						We 5	YbCl3 Mazzone 2021 1689 (7d) p22847 MB11						We 5	Exploring many-body excitations in a van der Waals triangular magnet Guo 2025 0357 (6d) (Mazzone) p22636 ORI3						Mo 5	Summary Mazzone 2025 1109 (1d) (Lass) p22634 ORI3																								
Sa 6							Su 6							Mo 6							Th 6	Fr 6	Sa 6	Su 6	Mo 6	Th 6	Fr 6	Sa 6	Su 6	Mo 6	Th 6	Fr 6	Sa 6	Su 6												
Tu 7							Th 7							Fr 7							Sa 7	Su 7	Mo 7	Th 7	Fr 7	Sa 7	Su 7	Mo 7	Th 7	Fr 7	Sa 7	Su 7	Mo 7	Th 7	Fr 7	Sa 7	Su 7									
Mo 8							Tu 8							Th 8							Fr 8	Sa 8	Su 8	Mo 8	Tu 8	Th 8	Fr 8	Sa 8	Su 8	Mo 8	Tu 8	Th 8	Fr 8	Sa 8	Su 8	Mo 8	Tu 8	Th 8	Fr 8	Sa 8	Su 8					
Tu 9	Magnetoelectric excitations in the pseudospinycorn multiferroic Co2MoO8 Morano 2025 0392 (4d) (Mazzone) p22638 ORI3						We 9	Inelastic neutron scattering investigation of the topological field-induced magnons and magnon-continuum interactions in the honeycomb antiferromagnet YbBr3 Hernandez 2024 1640 (6d) (Lass) p22795 MB11/DIL5						We 9	Entanglement-assisted quantum criticality measured with neutron spectroscopy Simeth 2025 0474 (9d) (Lass) p22641 MB11						Mo 9	Summary Song 2025 0316 (6d) (Lass) p22634 ORI3																								
Th 10							Fr 10							Sa 10							Su 10	Mo 10	Th 10	Fr 10	Sa 10	Su 10	Mo 10	Th 10	Fr 10	Sa 10	Su 10	Mo 10	Th 10	Fr 10	Sa 10	Su 10	Mo 10	Th 10	Fr 10	Sa 10	Su 10					
Mo 11							Tu 11							Th 11							Fr 11	Sa 11	Su 11	Mo 11	Tu 11	Th 11	Fr 11	Sa 11	Su 11	Mo 11	Tu 11	Th 11	Fr 11	Sa 11	Su 11	Mo 11	Tu 11	Th 11	Fr 11	Sa 11	Su 11					
Tu 12							Th 12							Fr 12							Sa 12	Su 12	Mo 12	Tu 12	Th 12	Fr 12	Sa 12	Su 12	Mo 12	Tu 12	Th 12	Fr 12	Sa 12	Su 12	Mo 12	Tu 12	Th 12	Fr 12	Sa 12	Su 12	Mo 12	Th 12	Fr 12	Sa 12	Su 12	
Mo 13	Nature of spin excitation in spin spiral phase of multiferroic YBaCuFeO5 revealed by INS Razzoli 2025 0292 (5d) (Mazzone) p22633 ORI3						We 13	Internal Lass 2025 0768 (3d) p22759 MB11						We 13	Topological and incommensurate magnon modes in olivine Mn2SiO4 Maesen 2025 0388 (12d) (Mazzone) p22637 MB11						Mo 13	Summary Wang 2025 1376 (1d) (Lass) p22639 ORI3																								
Tu 14							Th 14							Fr 14							Sa 14	Su 14	Mo 14	Tu 14	Th 14	Fr 14	Sa 14	Su 14	Mo 14	Tu 14	Th 14	Fr 14	Sa 14	Su 14	Mo 14	Tu 14	Th 14	Fr 14	Sa 14	Su 14	Mo 14	Th 14	Fr 14	Sa 14	Su 14	
Mo 15							Tu 15							Th 15							Fr 15	Sa 15	Su 15	Mo 15	Tu 15	Th 15	Fr 15	Sa 15	Su 15	Mo 15	Tu 15	Th 15	Fr 15	Sa 15	Su 15	Mo 15	Tu 15	Th 15	Fr 15	Sa 15	Su 15	Mo 15	Th 15	Fr 15	Sa 15	Su 15
Tu 16							Th 16							Fr 16							Sa 16	Su 16	Mo 16	Tu 16	Th 16	Fr 16	Sa 16	Su 16	Mo 16	Tu 16	Th 16	Fr 16	Sa 16	Su 16	Mo 16	Tu 16	Th 16	Fr 16	Sa 16	Su 16	Mo 16	Th 16	Fr 16	Sa 16	Su 16	
We 17	Localized chiral spin excitations in Zn doped triangular lang antiferromagnet K2Co2(SiO3)2 Chung 2025 0404 (5d) (Mazzone) p22640 MB11						Fr 17	Field dependence of the... Pisani 2024 1518 (5d) (Lass) p22294 MB11						Fr 17	Low energy magnetic excitations of a π-base antiferromagnet with intertwined orders Smidman 2025 0403 (6d) (Mazzone) p22639 ORI3						Mo 17	Summary Maesen 2025 0388 (12d) (Mazzone) p22637 MB11																								
Th 18							Fr 18							Sa 18							Su 18	Mo 18	Th 18	Fr 18	Sa 18	Su 18	Mo 18	Th 18	Fr 18	Sa 18	Su 18	Mo 18	Th 18	Fr 18	Sa 18	Su 18	Mo 18	Th 18	Fr 18	Sa 18	Su 18	Mo 18	Th 18	Fr 18	Sa 18	Su 18
Mo 19							Tu 19							Th 19							Fr 19	Sa 19	Su 19	Mo 19	Tu 19	Th 19	Fr 19	Sa 19	Su 19	Mo 19	Tu 19	Th 19	Fr 19	Sa 19	Su 19	Mo 19	Tu 19	Th 19	Fr 19	Sa 19	Su 19	Mo 19	Th 19	Fr 19	Sa 19	Su 19
Tu 20							Th 20							Fr 20							Sa 20	Su 20	Mo 20	Tu 20	Th 20	Fr 20	Sa 20	Su 20	Mo 20	Tu 20	Th 20	Fr 20	Sa 20	Su 20	Mo 20	Tu 20	Th 20	Fr 20	Sa 20	Su 20	Mo 20	Th 20	Fr 20	Sa 20	Su 20	
Mo 21	Field dependence of the... Pisani 2024 1518 (5d) (Lass) p22294 MB11						We 21	Internal Lass 2025 0768 (3d) p22759 MB11						We 21	Topological and incommensurate magnon modes in olivine Mn2SiO4 Maesen 2025 0388 (12d) (Mazzone) p22637 MB11						Mo 21	Summary Wang 2025 1376 (1d) (Lass) p22639 ORI3																								
Tu 22							Th 22							Fr 22							Sa 22	Su 22	Mo 22	Tu 22	Th 22	Fr 22	Sa 22	Su 22	Mo 22	Tu 22	Th 22	Fr 22	Sa 22	Su 22	Mo 22	Tu 22	Th 22	Fr 22	Sa 22	Su 22	Mo 22	Th 22	Fr 22	Sa 22	Su 22	
Mo 23							Tu 23							Th 23							Fr 23	Sa 23	Su 23	Mo 23	Tu 23	Th 23	Fr 23	Sa 23	Su 23	Mo 23	Tu 23	Th 23	Fr 23	Sa 23	Su 23	Mo 23	Tu 23	Th 23	Fr 23	Sa 23	Su 23	Mo 23	Th 23	Fr 23	Sa 23	Su 23
Tu 24							Th 24							Fr 24							Sa 24	Su 24	Mo 24	Tu 24	Th 24	Fr 24	Sa 24	Su 24	Mo 24	Tu 24	Th 24	Fr 24	Sa 24	Su 24	Mo 24	Tu 24	Th 24	Fr 24	Sa 24	Su 24	Mo 24	Th 24	Fr 24	Sa 24	Su 24	
We 25	Localized chiral spin excitations in Zn doped triangular lang antiferromagnet K2Co2(SiO3)2 Chung 2025 0404 (5d) (Mazzone) p22640 MB11						Fr 25	Field dependence of the... Pisani 2024 1518 (5d) (Lass) p22294 MB11						Fr 25	Low energy magnetic excitations of a π-base antiferromagnet with intertwined orders Smidman 2025 0403 (6d) (Mazzone) p22639 ORI3						Mo 25	Summary Maesen 2025 0388 (12d) (Mazzone) p22637 MB11																								
Th 26							Fr 26							Sa 26							Su 26	Mo 26	Th 26	Fr 26	Sa 26	Su 26	Mo 26	Th 26	Fr 26	Sa 26	Su 26	Mo 26	Th 26	Fr 26	Sa 26	Su 26	Mo 26	Th 26	Fr 26	Sa 26	Su 26	Mo 26	Th 26	Fr 26	Sa 26	Su 26
Mo 27							Tu 27							Th 27							Fr 27	Sa 27	Su 27	Mo 27	Tu 27	Th 27	Fr 27	Sa 27	Su 27	Mo 27	Tu 27	Th 27	Fr 27	Sa 27	Su 27	Mo 27	Tu 27	Th 27	Fr 27	Sa 27	Su 27	Mo 27	Th 27	Fr 27	Sa 27	Su 27
Tu 28							Th 28							Fr 28							Sa 28	Su 28	Mo 28	Tu 28	Th 28	Fr 28	Sa 28	Su 28	Mo 28	Tu 28	Th 28	Fr 28	Sa 28	Su 28	Mo 28	Tu 28	Th 28	Fr 28	Sa 28	Su 28	Mo 28	Th 28	Fr 28	Sa 28	Su 28	
We 29	Field dependence of the... Pisani 2024 1518 (5d) (Lass) p22294 MB11						Fr 29	Internal Lass 2025 0768 (3d) p22759 MB11						Fr 29	Topological and incommensurate magnon modes in olivine Mn2SiO4 Maesen 2025 0388 (12d) (Mazzone) p22637 MB11						Mo 29	Summary Wang 2025 1376 (1d) (Lass) p22639 ORI3																								
Th 30							Fr 30							Sa 30							Su 30	Mo 30	Th 30	Fr 30	Sa 30	Su 30	Mo 30	Th 30	Fr 30	Sa 30	Su 30	Mo 30	Th 30	Fr 30	Sa 30	Su 30	Mo 30	Th 30	Fr 30	Sa 30	Su 30	Mo 30	Th 30	Fr 30	Sa 30	Su 30
Mo 31							Tu 31							Th 31							Fr 31	Sa 31	Su 31	Mo 31	Tu 31	Th 31	Fr 31	Sa 31	Su 31	Mo 31	Tu 31	Th 31	Fr 31	Sa 31	Su 31	Mo 31	Tu 31	Th 31	Fr 31	Sa 31	Su 31	Mo 31	Th 31	Fr 31	Sa 31	Su 31
Tu 32							Th 32							Fr 32							Sa 32	Su 32	Mo 32	Tu 32	Th 32	Fr 32	Sa 32	Su 32	Mo 32	Tu 32	Th 32	Fr 32	Sa 32	Su 32	Mo 32	Tu 32	Th 32	Fr 32	Sa 32	Su 32	Mo 32	Th 32	Fr 32	Sa 32	Su 32	

Proposal Deadline

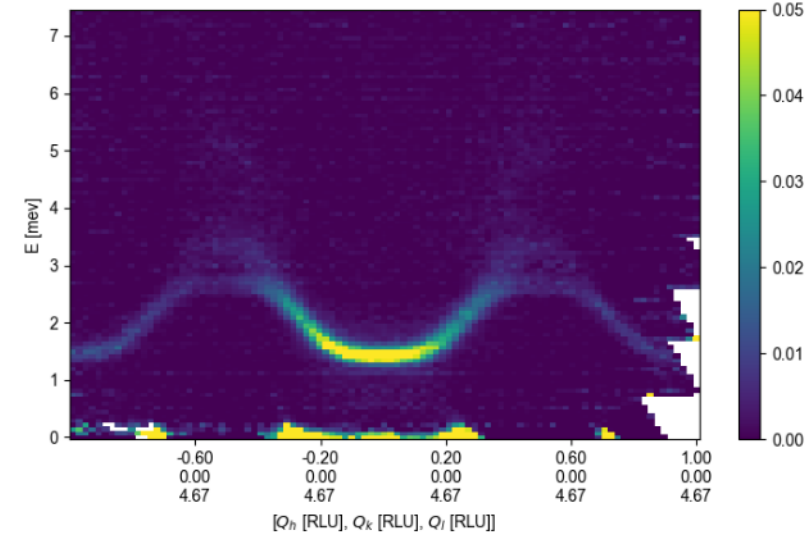
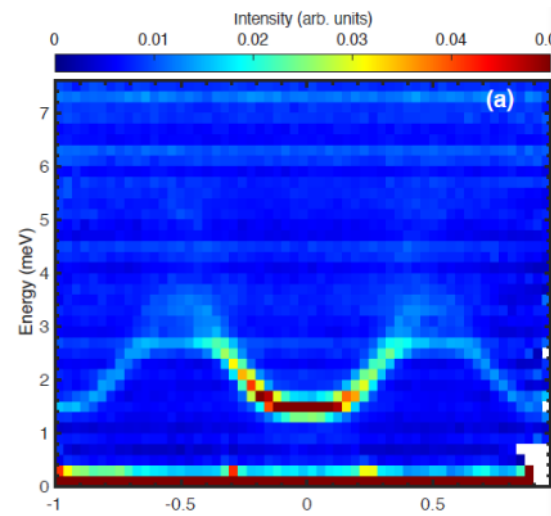
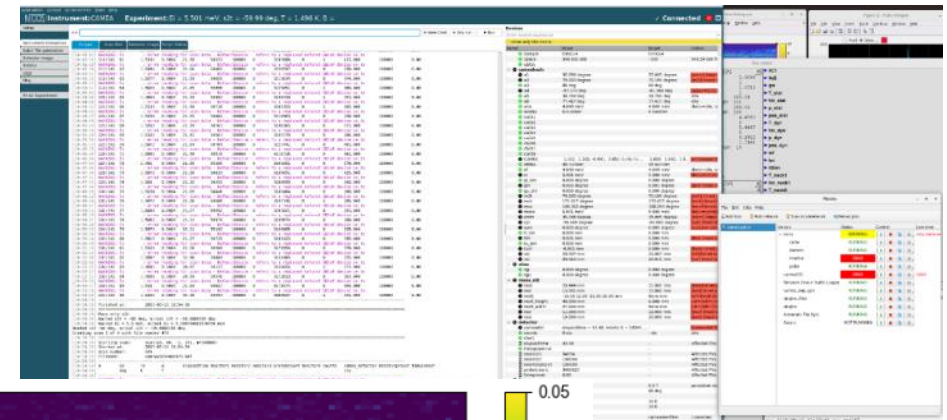
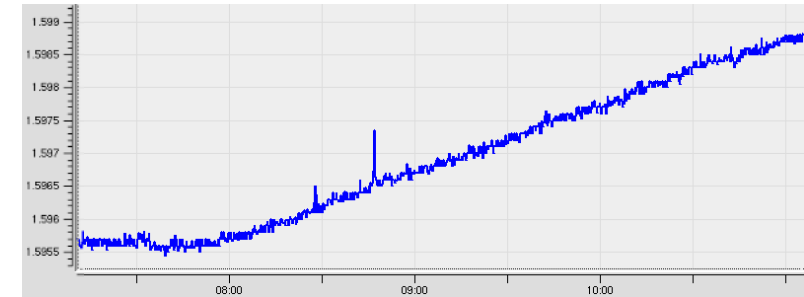
Expectation Management



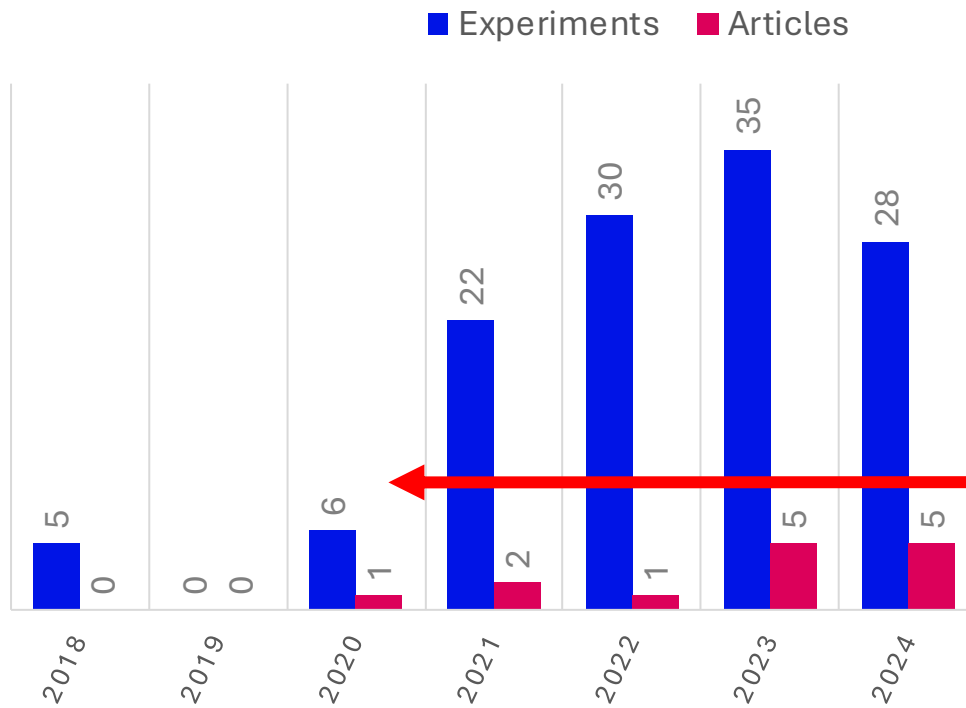
The “Average” User



Users and Expectations



Publication Expectations



* As of August 2026