

Project Review Panel PETRA III

4-5 Nov 2019

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- PRP rating guideline
- Proposal types at PETRA III
- New structure of PRPs starting in 2020
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Next deadline for regular proposals:
2 March 2020

Next PRP meetings:
27 - 28 April 2020
26 - 27 October 2020

Current Project review panels (PRP) at PETRA III

This is the last PRP of this kind: the next review in March/April 2020 will be organized differently

80% of the beamtime is dedicated to externally peer-reviewed proposals

The proposals are to be rated according to scientific excellence
AND expected outcome

Different PRP schemes exist at the different sources

PRPs serving (groups of) beamlines

PETRA III: PRPs serving scientific fields

PETRA III has comparably low number of beamlines

- ⇒ Beamlines are mostly dedicated to methods
- ⇒ Most beamlines serve different scientific topics
- ⇒ Cluster the expertise of the reviewers within “field related PRPs”
- ⇒ Some PRPs may still serve mainly one beamline



Current PRPs at PETRA III

Title of the PRP

PRP Secretary (DESY & HZG)

VUV- and Soft X-ray

Moritz Hoesch

X-ray Absorption Spectroscopy Applications

Wolfgang Caliebe & Edmund Welter

HAXPES Applications

Christoph Schlüter

Nuclear & Inelastic Scattering & X-ray Emission Applications

Hans-Christian Wille

High Pressure and Extreme Conditions

Hanns-Peter Liermann

Engineering Materials Science

Dieter Lott & Ulrich Lienert

Soft Condensed Matter: Bulk

Rainer Gerhke

Soft Condensed Matter: Surfaces and Interfaces

Oliver Seeck

Imaging (full-field, scanning, coherent)

Gerald Falkenberg & Felix Beckmann

Methods and Instrumentation

Horst Schulte-Schrepping

Hard Condensed Matter: Surface and Coherent Scattering

Michael Sprung

Hard Condensed Matter: Bulk (diffraction and scattering)

Ann-Christin Dippel

PEC: EMBL Life Science beamlines P12-P14 and Bio-crystallography at P11 by EMBL



The rating of proposals is based on

- **Scientific excellence (most important criteria)**
- **Expected impact (publications)**
- Necessity of using PETRA III beamlines
- Reports on previous experiments (if applicable)

For new LTPs additionally:

- Necessity of applying for LTPs instead of a few regular proposals (project plan)

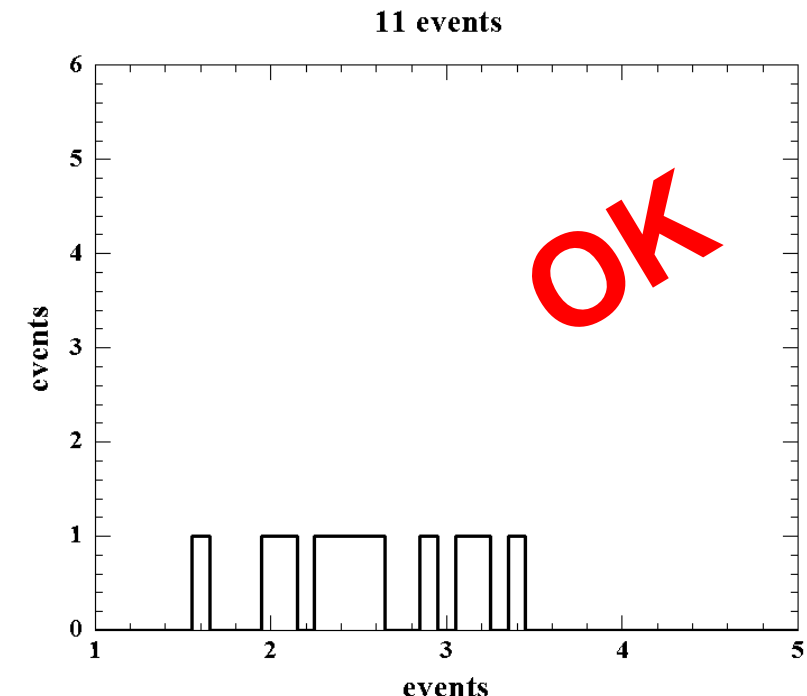
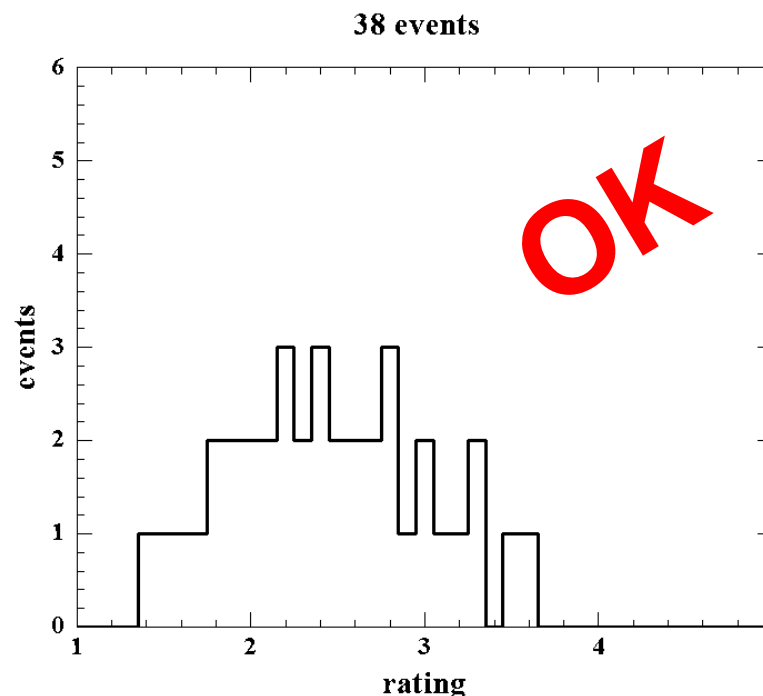
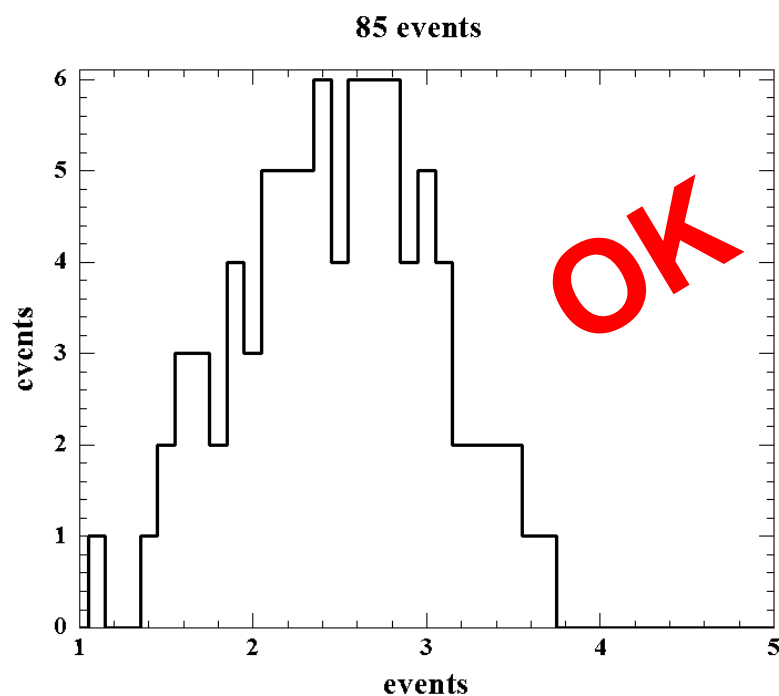
➔ Please agree on a message to the proposer during the meeting whenever useful

➔ Every rejected proposal will automatically receive this message

➔ Every rejected proposal without dedicated message will receive a standard message : „Well received, but no beam time due to cut-off ...“

PRP rating system : average per PRP is 2.5 (last time → obsolete in future)

Several PRPs are serving one beamline => the rating system has to be reasonably normalized



Beamlines distribute beamtime starting from the best proposal until they are booked

- The PRPs for PETRA are not assigning proposals for beamtime, they rate the proposals !
- The cut-off is different at different beamlines
=> the rating better 2.5 does NOT guarantee beamtime!

Noise is allowed !

Correction done by the PRP secretary (last time → obsolete in future)

Correction value c has to be calculated: $c = \frac{N(b-1)}{\sum_{i=1}^N n_i - N}$

The new ratings m_i will be calculated for all i applying $m_i = c(n_i - 1) + 1$

Resulting in: $\frac{1}{N} \sum_{i=1}^N m_i = b$

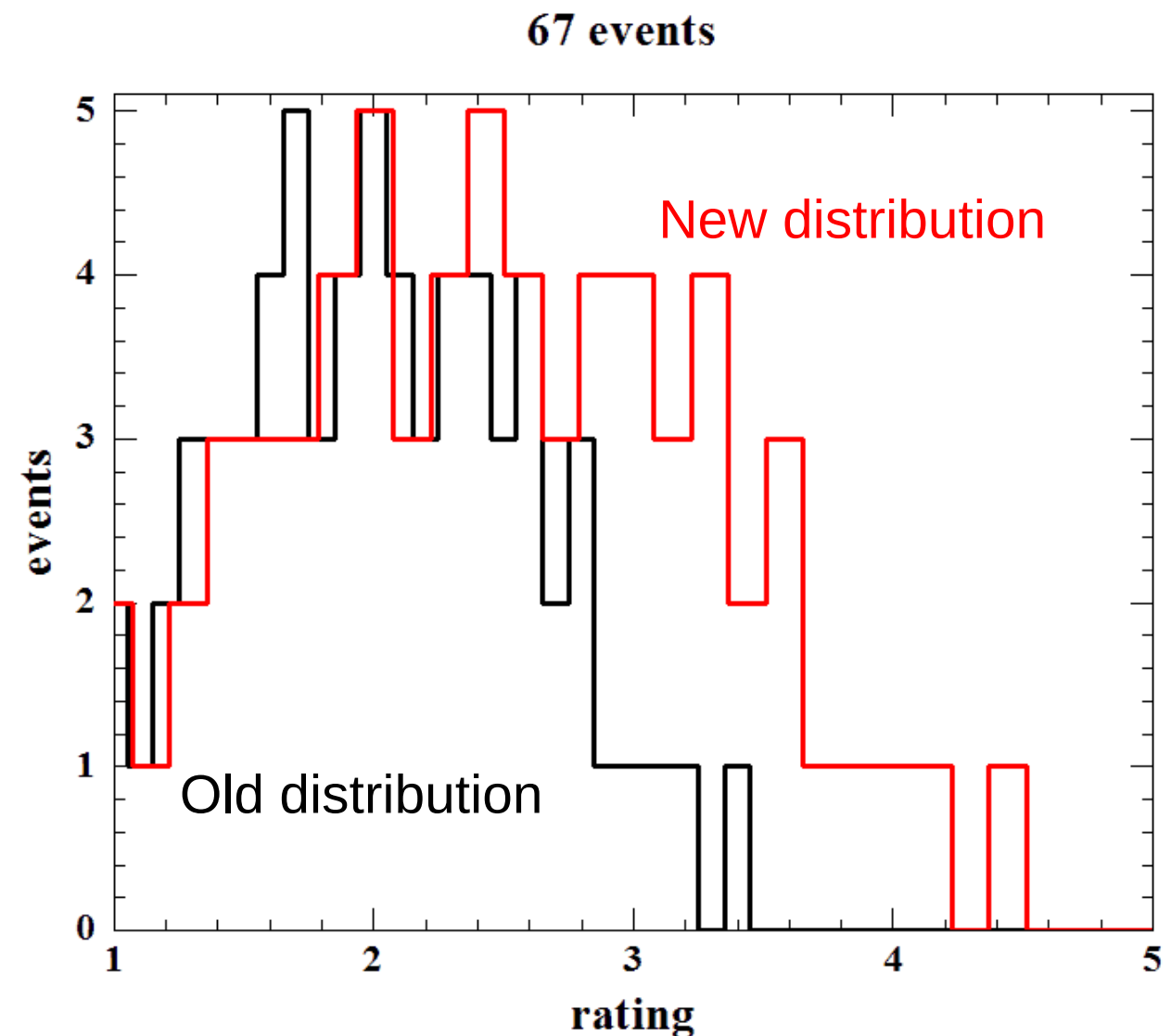
With:

$\{n_1, n_2, n_3 \dots n_N\}$ = set of all results (ratings)

N = total number of ratings

$n_i : 1 \leq n_i \leq 5$ (1 being the best rating)

b = target average value (here: 2.5)



Regular & Long Term Proposals (LTP) & Block Allocation Group (BAG) Proposals

1) A regular proposal covers one run (usually 6 months) (proposal ID : **I**-2019xxxx)

The beamtime can be split into two parts if required

2) An LTP covers 4 runs (usually 6 months each) (proposal ID : **II**-2019xxxx)

Boundary conditions

- The maximum number of shifts (integrated) is 72 (as entered in the application)
- The maximum number of LTPs per beamline is 2 (or 3 with lower number of shifts)
- LTPs require a project plan with strong interconnection of the four runs
- LTPs require a benefit for the beamline, usually some instrumentation staying at the beamline
- For each run a “beamtime applications” has to be submitted
- The PRPs should evaluate the outcome of running LTPs and may decide to stop it.

If e.g. 4 LTPs applications are in the pipeline for one beamline but only 1 is available, 3 will be rejected no matter what the rating is !

3) A BAG covers 4 runs (usually 6 months each) (proposal ID : **BAG**-2019xxxx)

Boundary conditions

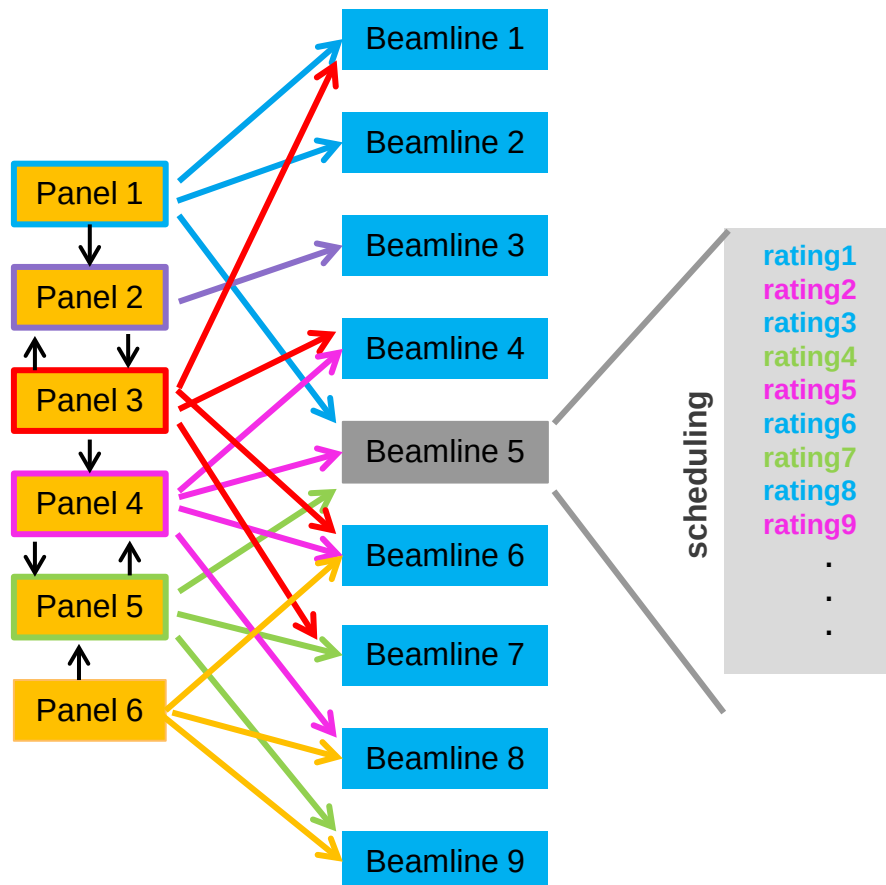
- Must a collaborative effort of at least five groups working on one project
- Similar boundary conditions as LTP but no additional benefit for the beamline required.



FUTURE PRP system: starting with next review in April 2020

Today

13 PETRA III panels (~ 80 reviewers)

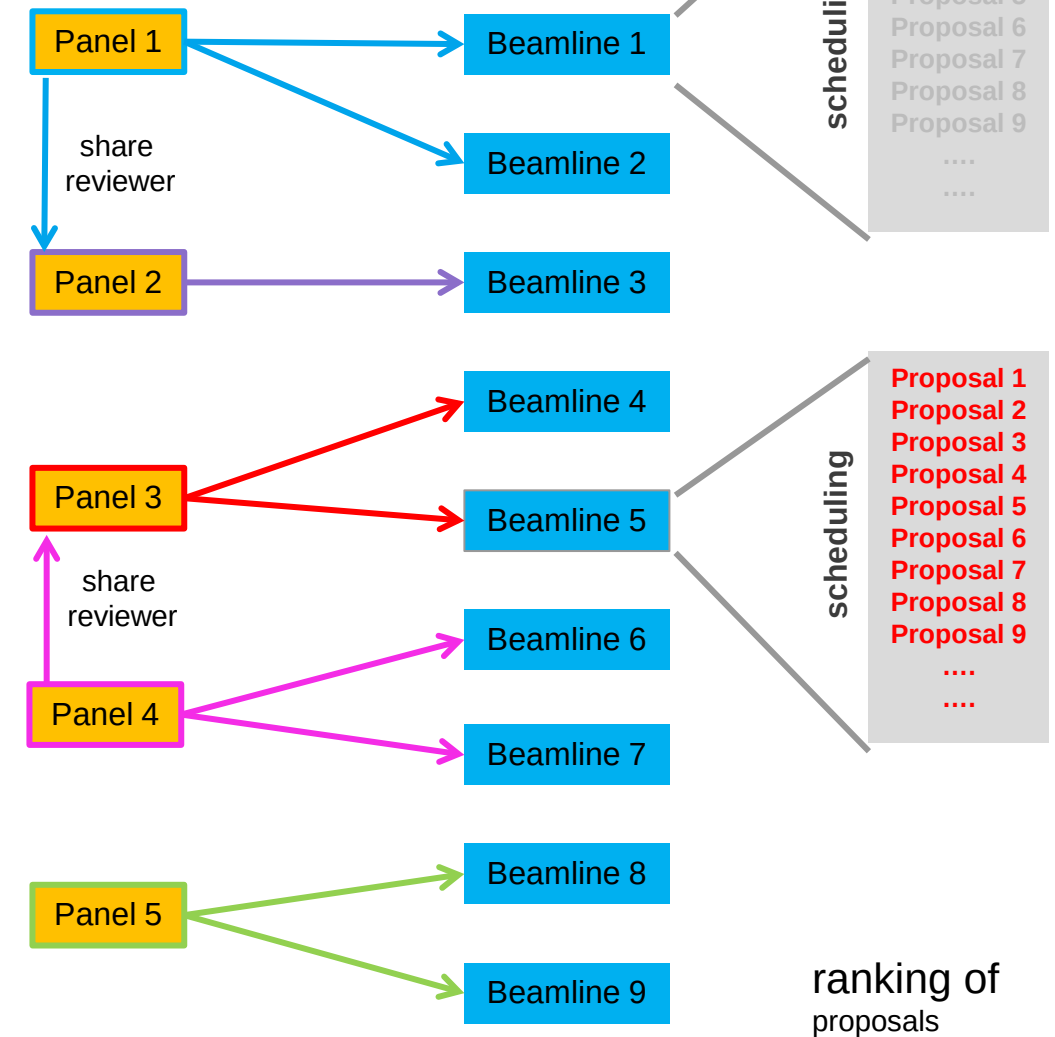


- Expert panels evaluate proposals from different beamlines
- Normalization of ratings
- at one beamline combination of proposals from different PRPs
- reviewer has no control **whether** proposal receives beamtime

Future

12 PETRA III panels (~ 80 reviewers)

adaptation to PRP system at other sources



eg.: P65 & P65 (XAFS),
P08 & P23 (surface and nano-science)
P05 & P06 (imaging)
P02.2 & P61B (high pressure)

FUTURE PRP rating procedure

- before the PRP meeting: Reviewers RATE the proposals (as in previous system)
- before the PRP meeting: PRP secretaries generate a tentative RANKING for each beamline
- During PRP meeting: all proposal will be RANKED at EACH beamline (based on tentative ranking)
 - e.g. in the XAFS PRP the ranking will be done for both beamlines separately
- 60-70% of available beamtime will be directly distributed by the PRP based on ranking

- for approx. **30-40%** of beamtime priority access applies (depending on beamline)
 - e.g. Sweden (partially following the PRP ranking), India@DESY (following Indian review), running LTPs & BAGs, existing collaborations, industry)
- Cancellation of a granted proposals by user: fallback proposal will receive beamtime based on the PRP ranking



Future PRP: tentative re-distribution of members to new PRPs

Your activity as PRP member will continue in the new PRP system

- If you do **not** wish to continue in the BL-based PRP system please let us know.
- The total duration of your mandate (~ 3 years) will not be extended by the redistribution (as long as not agreed otherwise)
- Exception: We will not dismiss any reviewer before the next call unless requested by the reviewer her-/himself

Future PRPs defined by beamline or clusters of beamlines. Some PRPs will remain the same, some will be redistributed

PRPs already in place:

- | | |
|-----------------------|------------------------------------|
| • XAFS | P64 / P65 |
| • HAXPES | P23 |
| • Extreme Conditions | P02.2 / P61.DESY |
| • Imaging | P05 / P06 |
| • VUV and Soft X-rays | P04 (in future also P66 Superlumi) |

Proposals without experts in BL – PRPs will be evaluated by members of other PRPs

New PRPs (tentative):

- HZG P07 / (P61)
- P08 / P23
- P21 / P07 DESY
- P01 / P09 / P24
- P03 / P62
- P10
- P02.1

not all groups finally defined, redistribution of reviewers will be discussed and communicated soon

PRP “Method and Instrumentation” will not continue!

Reimbursements

From your PRP secretary

- Get your reimbursement forms
- Register for TAXI transport and later get a TAXI voucher (if required).
(TAXIs can be ordered at the main gate (tel. 3333))
- Get a lunch voucher (if required)

**We will keep you informed about
the changes of the PRP system at PETRA III**

Have good discussions

**Thank you for being available and for acting as
reviewer for the PETRA III proposals**



PETRA III: Some information you may be interested in.

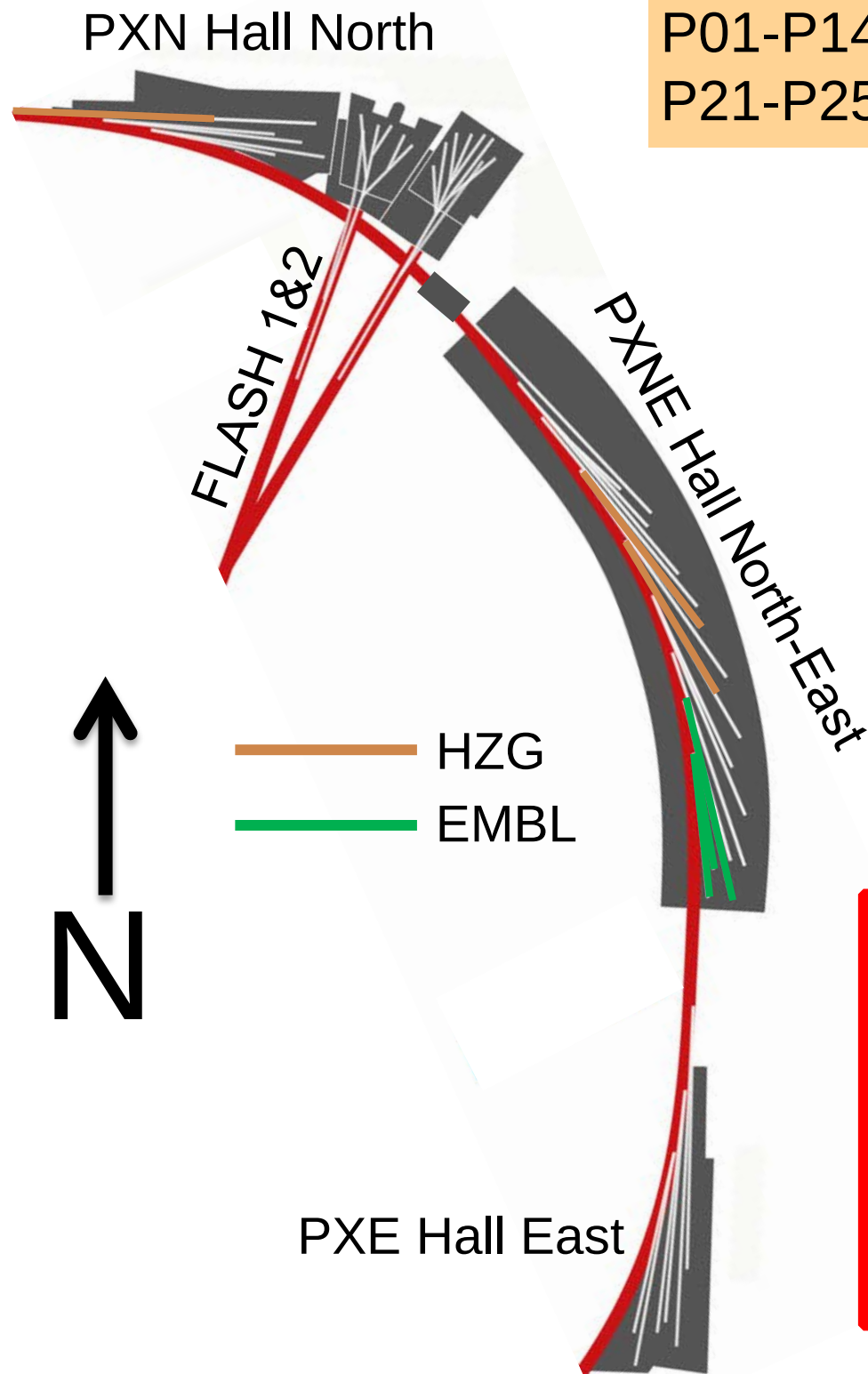


- > particle energy: 6 GeV
- > stored current: 100 mA (top-up)
- > emittance: 1.3 nmrad
- > circumference: 2304 m
- > # of undulators: 26 (incl. canted)
- > # of experiments: 50
- > X-ray wavelength: 10 – 0.05 Å
- > annual operation: 5000 h (target value)

- > built in 1978 rebuilt as SR source starting in 2007
- > user operation since 2010
- > shutdown for PETRA III extension: March 2014 – April 2015
- > First beam in PETRA III extension BL P65 : November 2015
- > 22 beamlines are taking regular users
- > Coming up in 2020/21 : White Beam Materials Science & High Pressure, Anomalous SAXS, Luminescence

3 Halls – 15 Sectors – 22 Beamlines

P61-P66: Hall North = building 46g = Paul Peter Ewald Hall
P01-P14: Hall North East = building 47c = Max von Laue Hall
P21-P25: Hall East = building 48f = Ada Yonath Hall



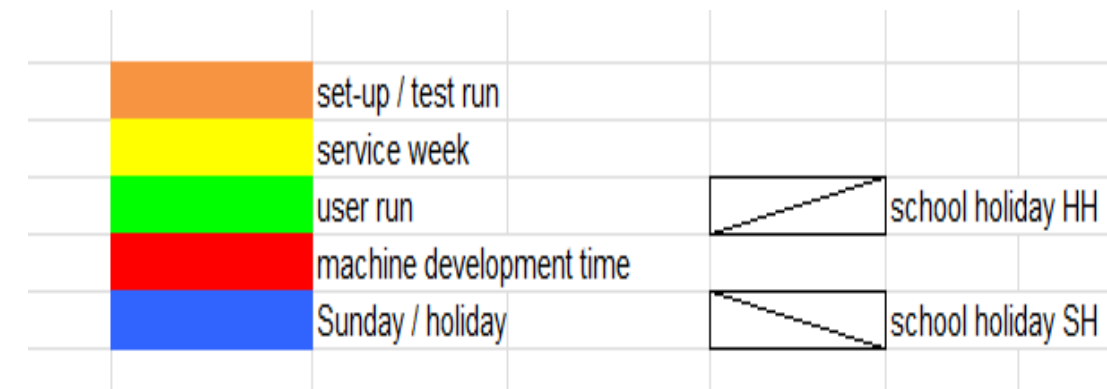
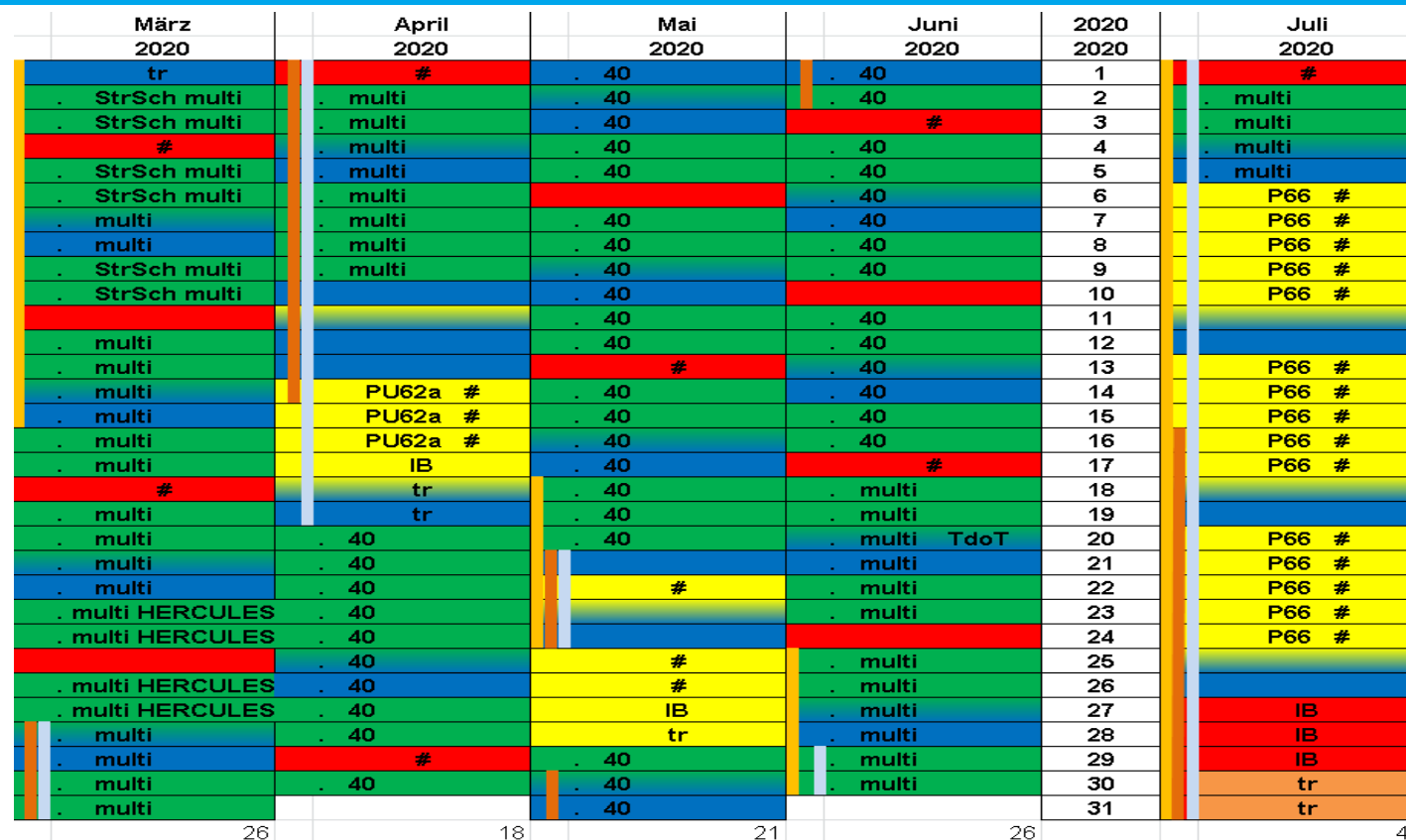
Beamlines in user operation:	22
Beamlines in commissioning:	1
Beamlines under construction:	2 (until 2020/21)
Beamlines in consideration:	2

External contributions (out of all beamlines):

- 3 beamlines operated by EMBL
- 2.5 beamlines operated by HZG
- 1.3 „Indian virtual beamline“ → priority access
- 1.89 Swedish beamlines → priority access
- several MPI involvements adding up to 1 beamline

Methods at beamlines:	With experiments optimized for:
- Scattering	- coherence
- Diffraction	- high flux
- Spectroscopy	- small focus
- Imaging	- high energy resolution
	- high stability

Schedule of PETRA III in 2020



4944h synchrotron radiation run
No user run over
Easter and Ascension Day

