

Betriebsversammlung

Bericht der Leitung

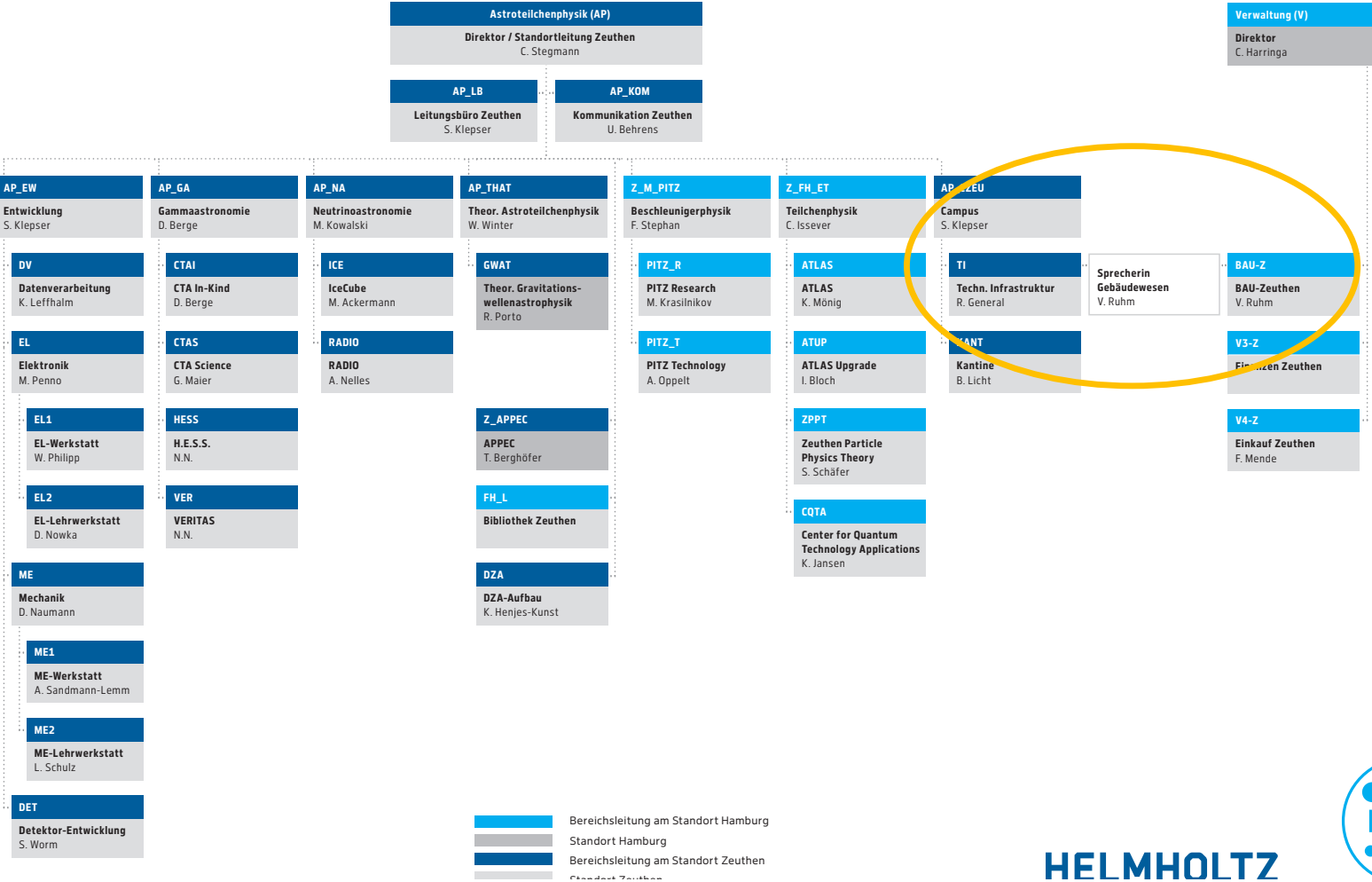
...the Deputy's Perspective

February 2024

S. Klepser, C. Stegmann

Campus

The group formerly known as TI or BAU-Zeuthen



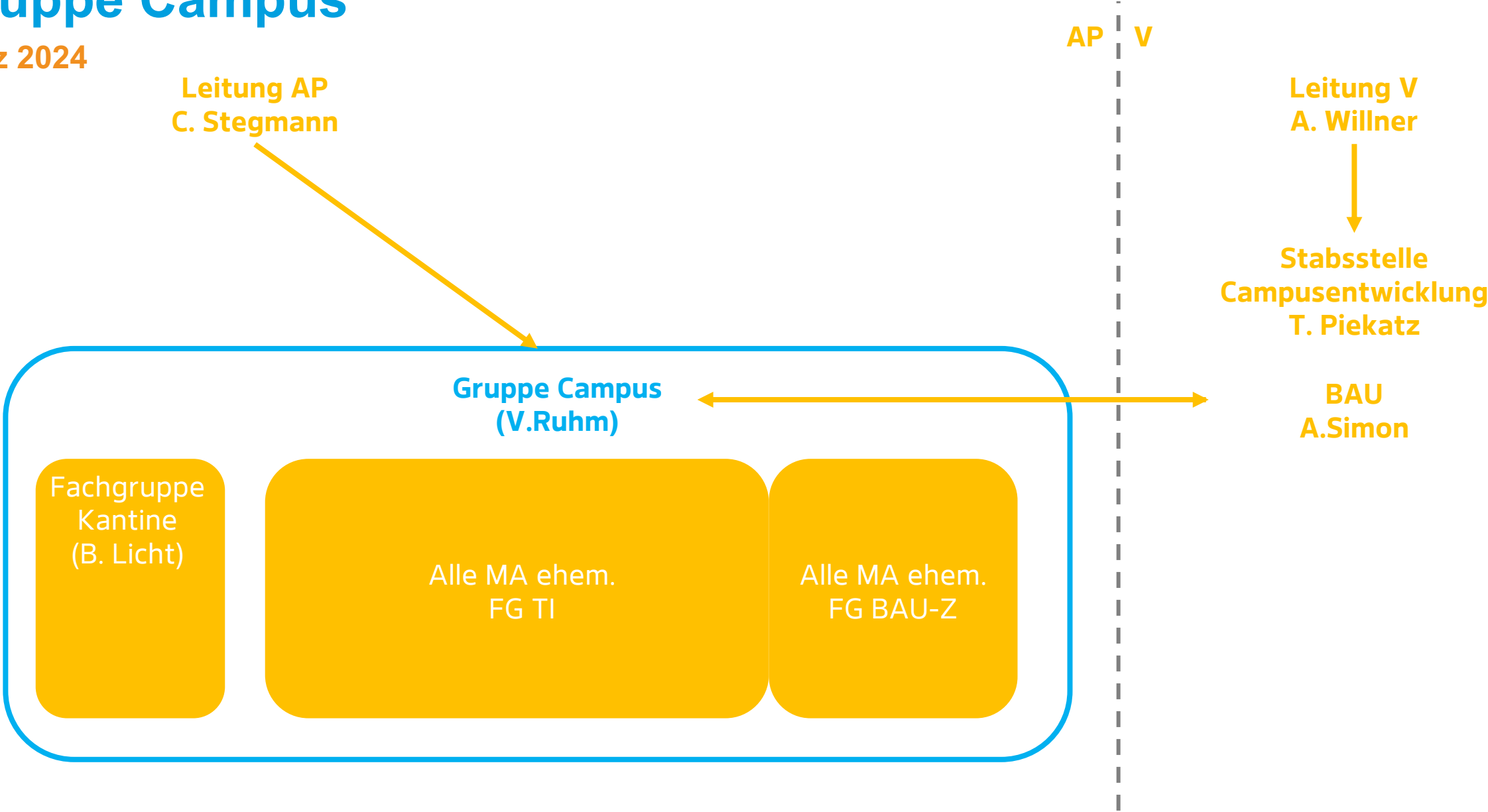
Bereichsleitung am Standort Hamburg
 Standort Hamburg
 Bereichsleitung am Standort Zeuthen
 Standort Zeuthen

HELMHOLTZ



Gruppe Campus

März 2024



What does that mean?

Strategy and streamlining

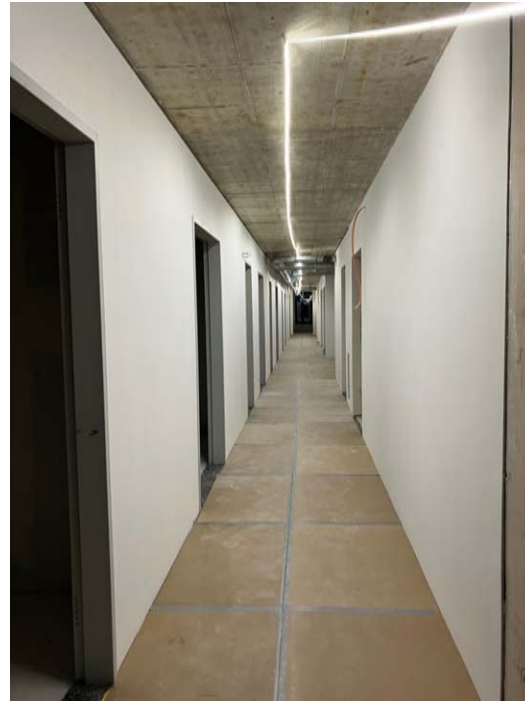
- Strategy process, possible reorganisation of some things in the coming 6 months
- New mailing lists (coming, not active yet):
 - campus-bedarf-zn@desy.de (Ticketsystem, ex ti-zeuthen@desy.de)
 - campus-gruppe-zn@desy.de
- Verena Ruhm is the one contact point for everything around Campus topics

CTA SDMC und Kantine

Stand

- Installation durch Ausbaugewerke laufen
- Fertigstellung Ende II.Quartal 2024
- Eröffnung **14.Oktober 2024**

KEINE ÄNDERUNGEN



CTA Funktionserweiterung

Stand

Los_1 (Seminarräume)

- Knifflige Einsparrunden aufgrund Budgetgrenzen
- Fertigstellung II.Quartal 2024

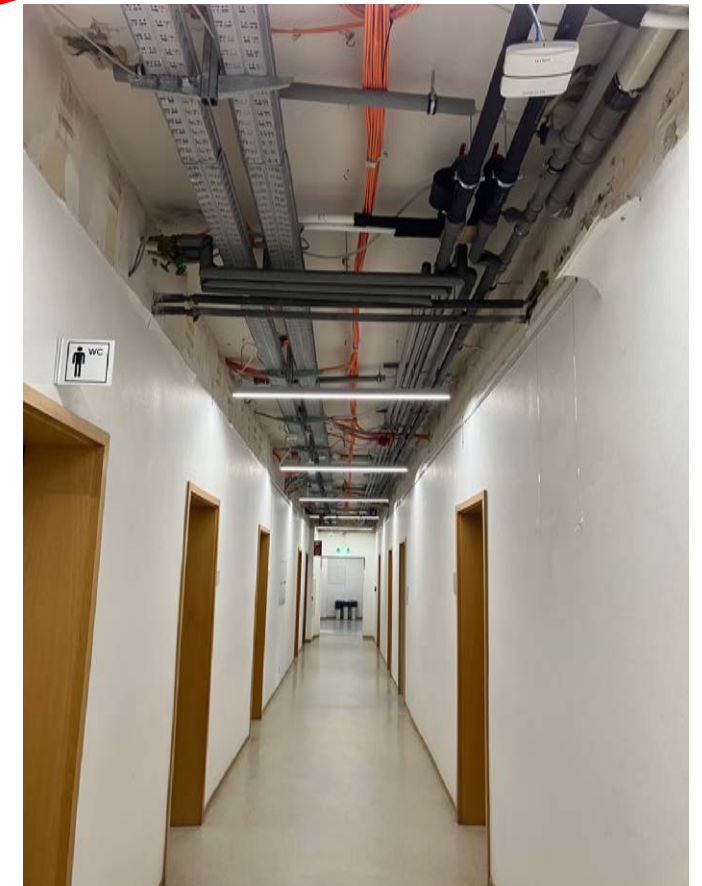
Los_2 (Laborgebäude)

- Einsparrunden:
 - 1 WC-Bereich wird nicht saniert
- Abbruch KOM-Bereiche **Beginn 26.02**

KEINE ÄNDERUNGEN



nachher



Projekte

Stand

Sanierung Brandschutz Hallenumlauf

- Restarbeiten (in Zusammenhang mit CTA FERW)
- Fertigstellung voraussichtlich Ende Februar '24

Medienkanal

- Bestückung steht noch aus
- Fertigstellung voraussichtlich Ende Q1/ 24

Sanierung Heizzentrale

- Planung ist angestoßen
- Ziel: Nutzungsbeginn I.Quartal 2025



Campus-Seminar

<https://indico.desy.de/event/42109/>

- Newly set up, formerly „Technisches Seminar“
- Thu 9:30-10:30
- Mostly in German
- Made for EVERYBODY to dive into what we are all working for
- Talk on 7.3: Konrad Rappaport (SciCom Lab) berichtet: Wie entstehen die Animationen für DESY und den AP Bereich und was ist eigentlich die Philosophie dahinter?

The screenshot shows the Indico website interface for the 'Campus Seminar Zeuthen' event. The header includes the Indico logo, location (Europe/Berlin), language (Deutsch), and login options. The main content area features a search bar, a 'Veranstaltung erstellen' button, and a list of administrators: Daniel Neubert, Ingo Ebel, and Julia Eckert. The event description states that the 'Technische Seminar Zeuthen' is being replaced by the 'Campus Seminar Zeuthen' in 2024. It mentions that the seminar is primarily in German and aims to inform all groups about scientific projects and infrastructure. The event details include the date (first Thursday of the month, 9:30-10:30), location (Villa | SR5 and ZOOM), and organizers (Ingo Ebel and Julia Eckert). A calendar view shows the event on March 7, 2024, titled 'Konrad Rappaport, "Outreach – Animationen für DESY | SciCom Lab berichtet"'. Other events are listed for February 1st (cancelled) and January 11, 2024 (Julian Schliwinski, "ULTRASAT – Der weite Blick ins Ungesehene").

Onboarding

DESY-Campus in Zeuthen

Onboarding-Veranstaltung

- alle 2 bis 3 Monate
- nächster Termin 29. April 2024, 9 Uhr
- Anmeldung immer unter www.desy.de/onboarding_zeuthen

Campus Informationen (interne Webseite)

- kom-zeuthen.desy.de/campus_information
- Newsletter, neue Gesichter, Onboarding

Onboarding information

- kom-zeuthen.desy.de/campus_information/onboarding
- Willkommen-Broschüre „Campus Zeuthen“
- Checkliste „Welcome to Germany“

Onboarding event

- every 2 to 3 month
- Next date 29 April, 9:00
- Registration here www.desy.de/onboarding_zeuthen

Campus information (internal website)

- kom-zeuthen.desy.de/campus_information
- Newsletter, new faces, onboarding

Onboarding information

- kom-zeuthen.desy.de/campus_information/onboarding
- Welcome Booklet „Campus Zeuthen“
- Checklist „Welcome to Germany“

Engineering and Computing

Research technology projects

- **Engineering Board**

- Chair: Maria Krause
- Coordination of what the Research Technology groups ME and EL do for research groups
- Members: Merlin Barschke, Ingo Bloch, Markus Garczarczyk, Timo Karg, Dirk Naumann, Anne Oppelt, Marek Penno, Markus Schade, Steve Worm, SK

- **Computing Board**

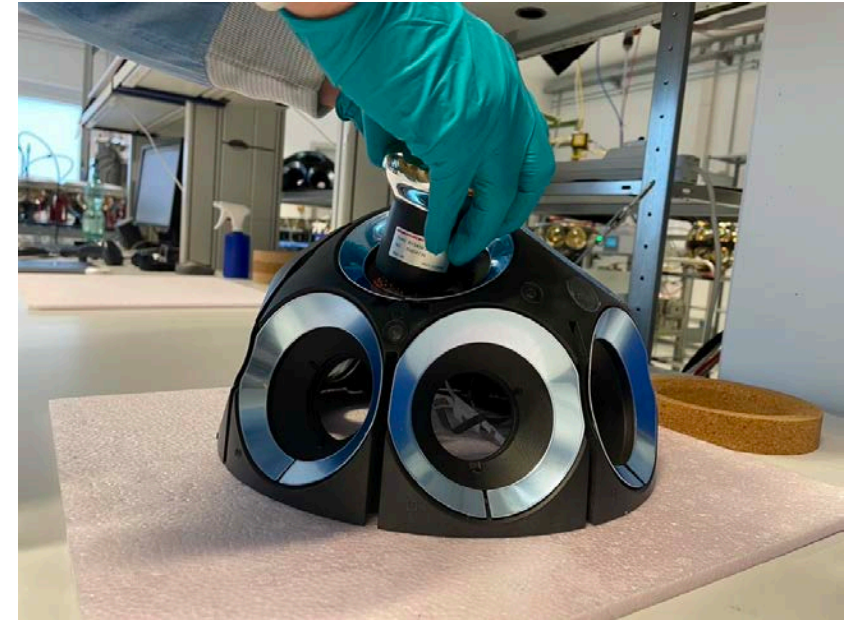
- Chair: Kai Leffhalm
- Coordination of what the Research Technology group DV does for research groups, and other computing matters
- Members: Markus Ackermann, Cigdem Issever, Mikhail Krasilnikov, Rico Lindemann, Gernot Maier, David Melkumyan, Hubert Simma Jakob van Santen, SK



Engineering Board

News

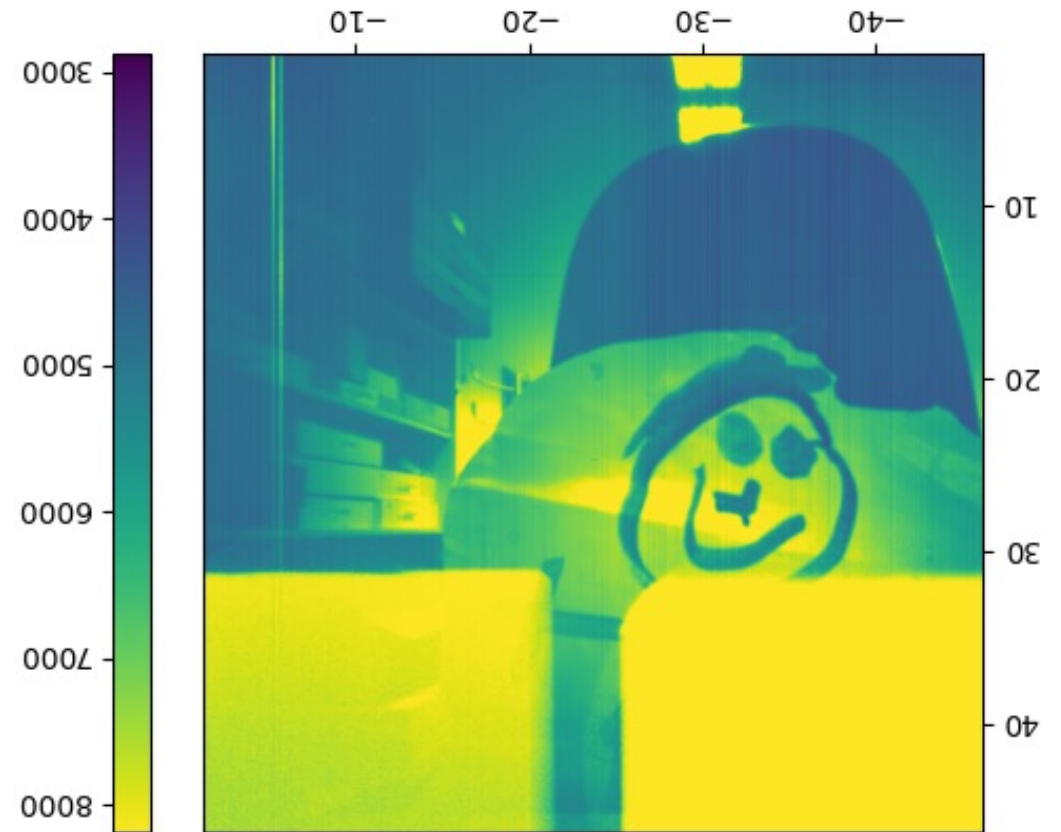
- No new projects since ULTRASAT
- Major running projects
 - ULTRASAT
 - PITZ Gun-Production for FLASH/XFEL
 - IceCube-Upgrade
 - ATLAS Upgrade
 - CTA MSTs/SSTs



IceCube mDOM production in Bohnsdorf

ULTRASAT „First Light”

First sensor images, stable data taking since two weeks



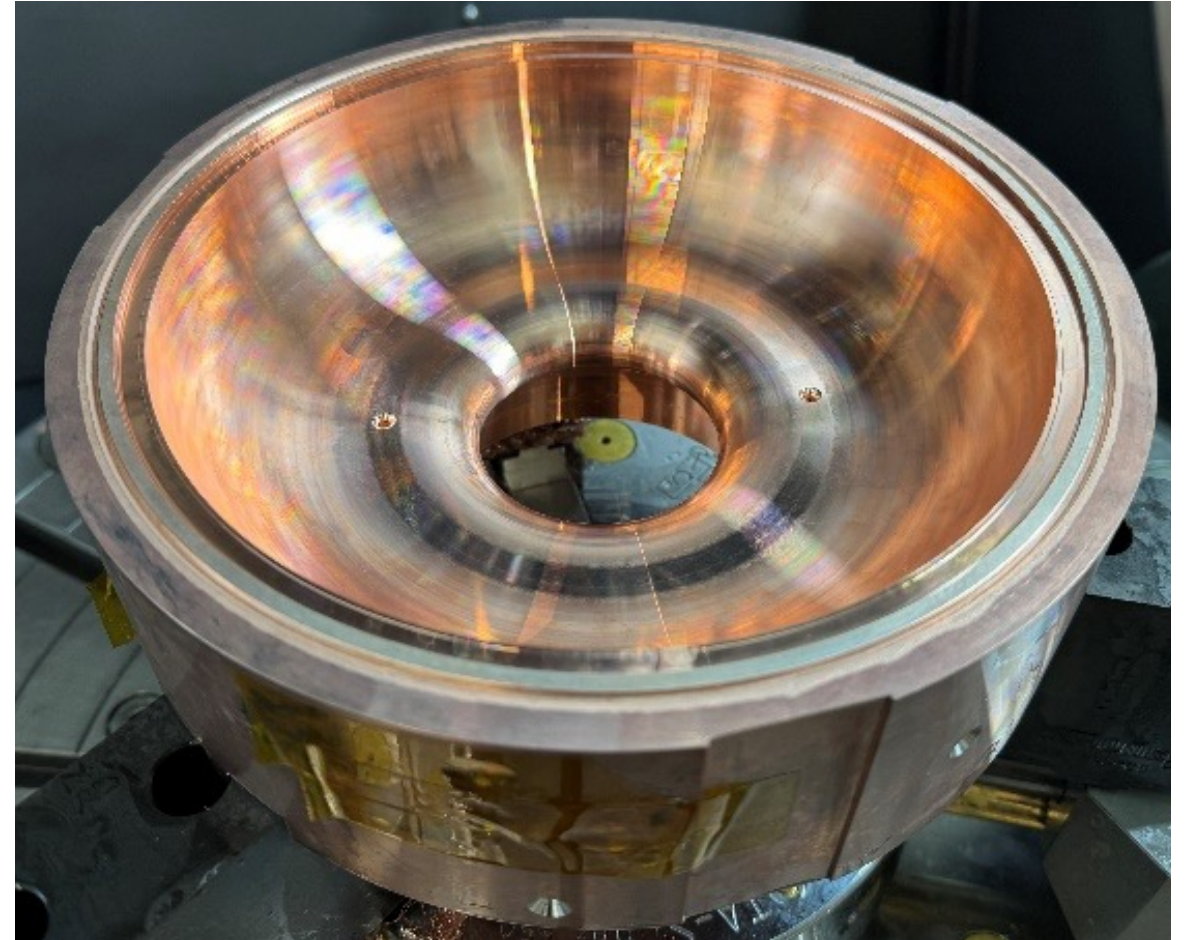
Plus: Plan for camera production and testing completed

Gun 5

Production of 6 RF Guns of type 5 ongoing / Gun5.3 almost finished

PITZ Gun production

- In Zeuthen developed new gun types are foreseen for **XFEL**, **FLASH** and **PITZ**
- They will enable 50% longer RF pulse length (results in 50% higher average RF-power) which **allows 50% more bunches for the FEL users**

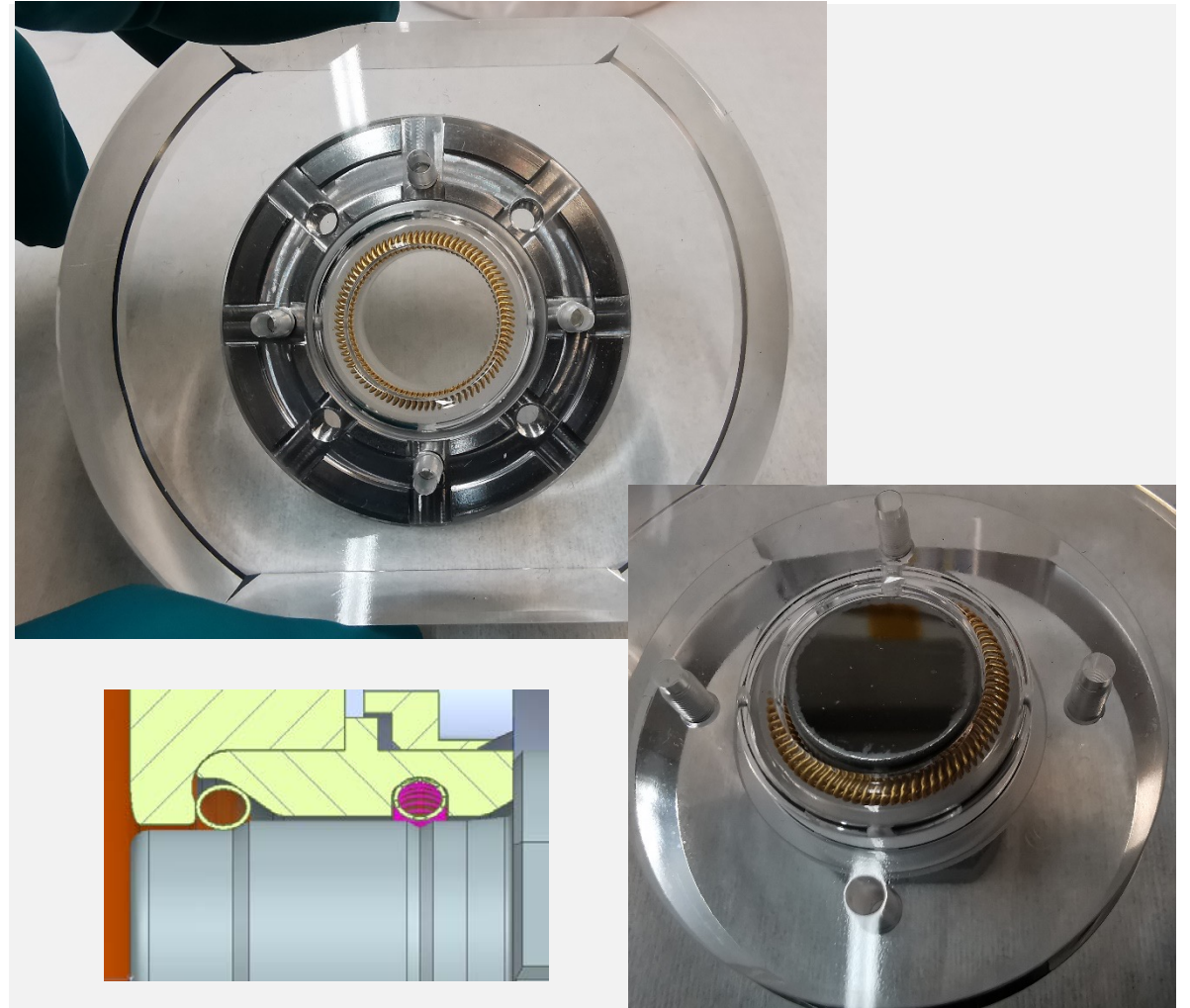


New cathode spring contact design and test

New mechanism for cathode spring contact in RF gun under development

RF Gun

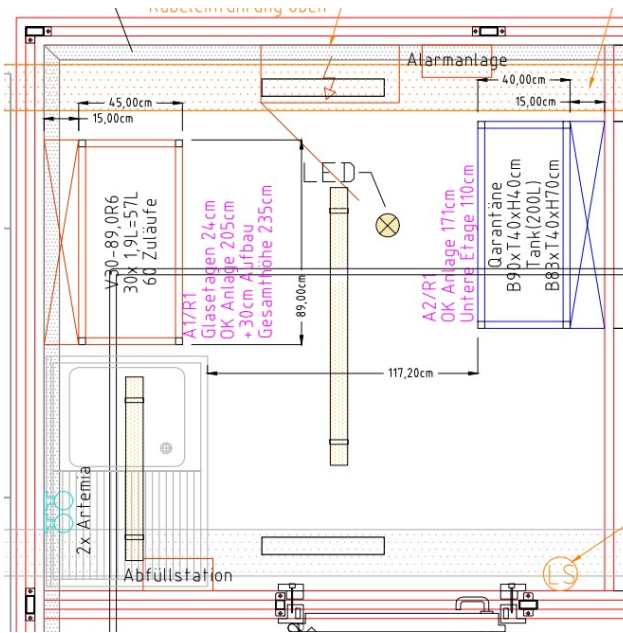
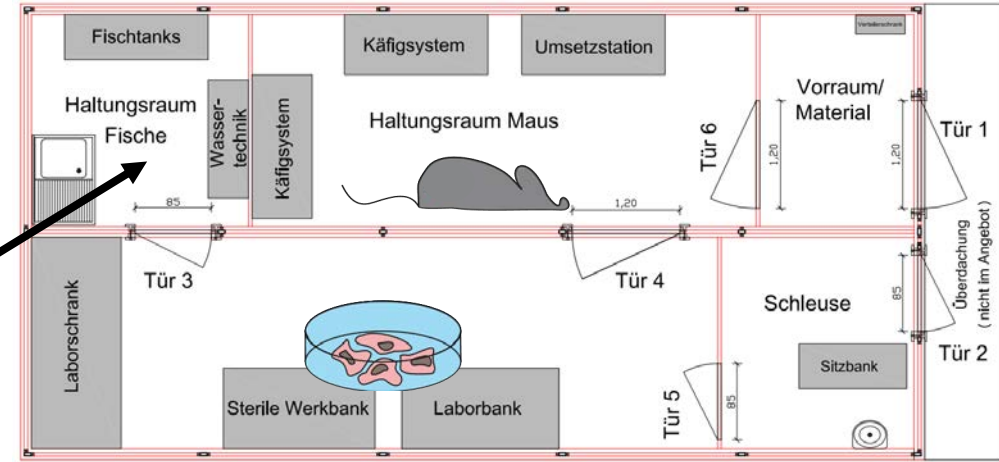
- The current spring design shows certain RF-load limitations which needs to be managed.
- A **new spring contact design** which is **compatible** to the **existing and new guns** and the **existing cathode handling system** is under **development** and **test**.
- Further mechanical tests and electrical high current pulse tests are foreseen.



Bio-Lab Container is constructed and Fish room is installed

Fish system installed

1. Aquarium system - type V30
2. Tank system
3. Quarantine system with separated water circle
4. Control cabinet and electrical installation
5. Artemia culturing system



Future of PITZ

Work in progress

- The future of PITZ beyond 2026 is currently under discussion in the directorial boards of DESY and XFEL
- Possible and likely perspective:
 - The PITZ group + XFEL funding + third party funding (e.g. radiation biology) will enable an exciting project-oriented future research program for the PITZ accelerator.
 - „PITZ wird sich von einer generischen ARD-Forschungsanlage zu einer projektorientierten Anlage entwickeln.“ (DIR-Sitzung 22.02.24)

ATLAS Upgrade

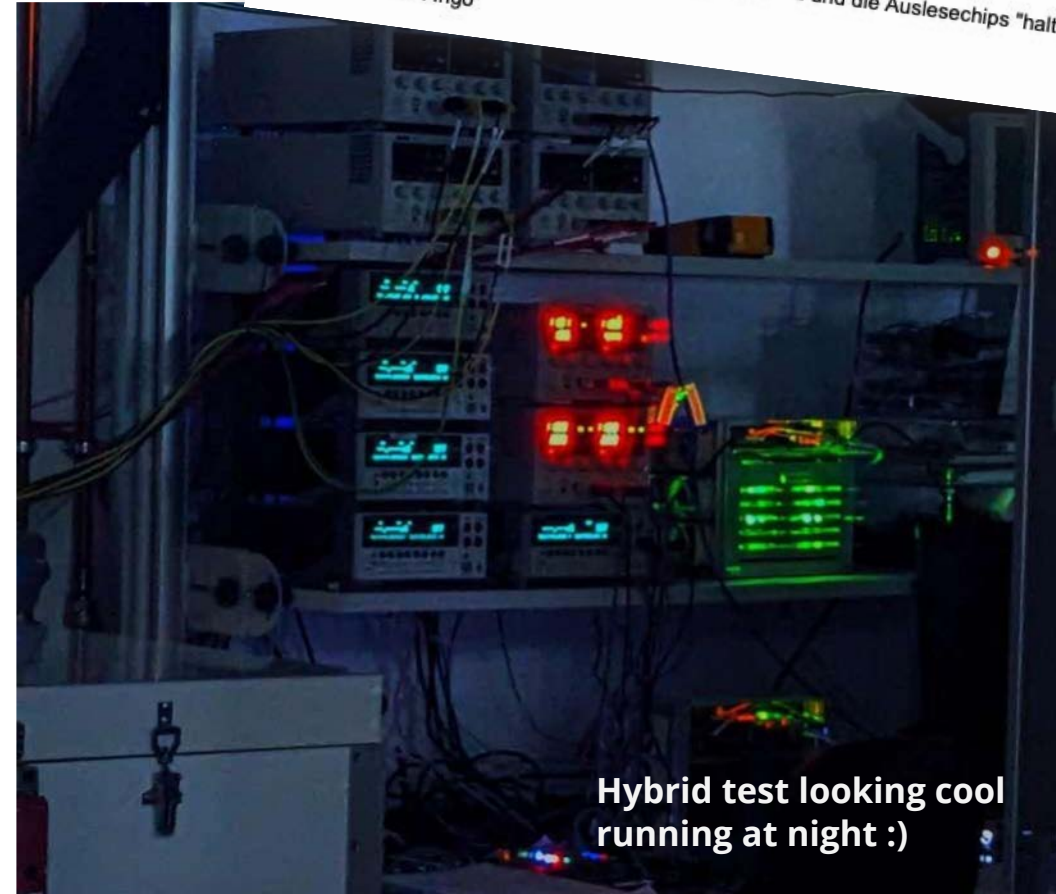
Dank an Ingo Bloch et al.

Status

- First set of Pre-Production (part B) hybrids finished
- All but one hybrids pass electrical tests
- one had to have an ASIC replaced
- First 3 modules assembled, bonded and successfully tested
- fully work :)

IB Ingo Bloch <ingo.bloch@desy.de>
Aw: Verständnisfrage: Was sind "hybrids"?
An: Stefan Klepser <stefan.klepser@desy.de>

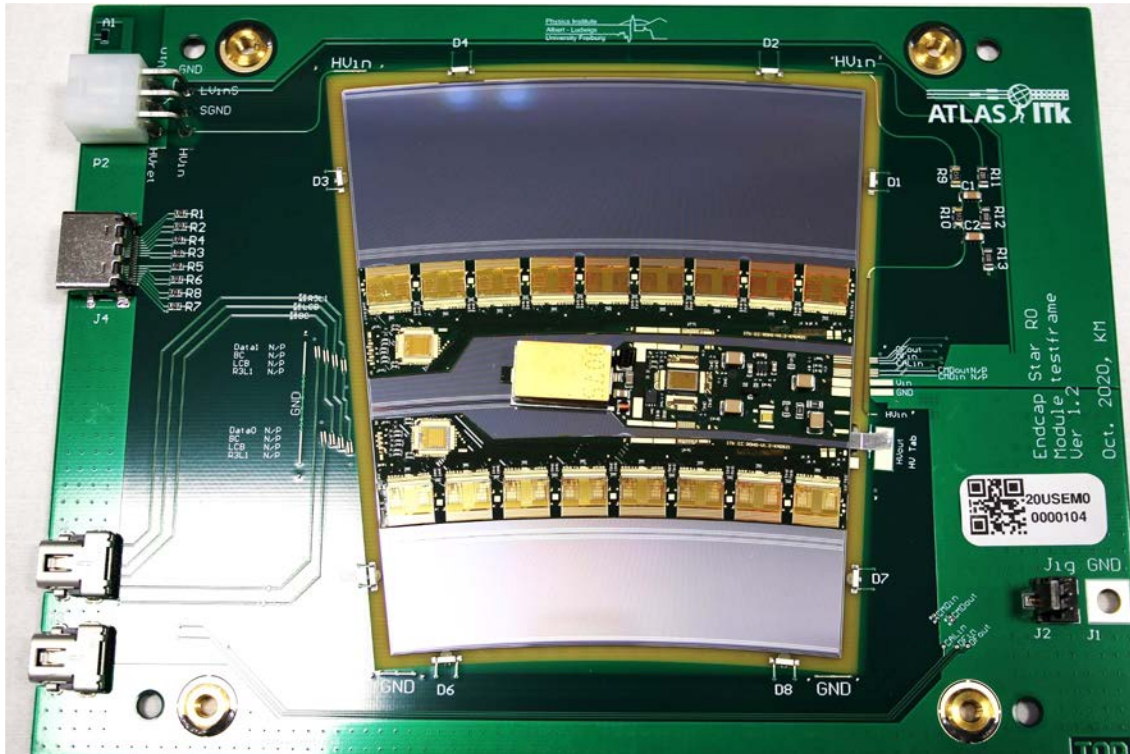
Moin Stefan,
die flex Palatinen die auf den Sensoren aufgeklebt sind und die Auslesechips "halten"
Lieben Gruss von Ingo



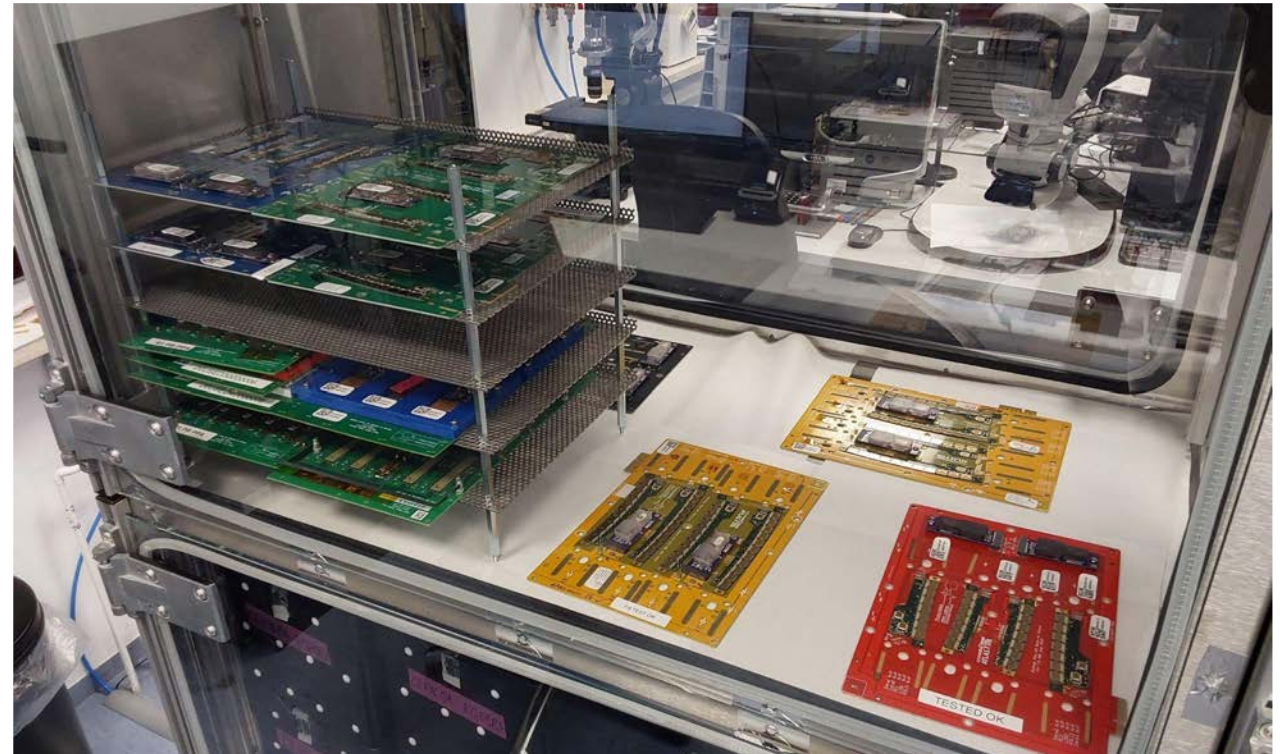
Hybrid test looking cool running at night :)

ATLAS Upgrade

First official pre-production module (R0)



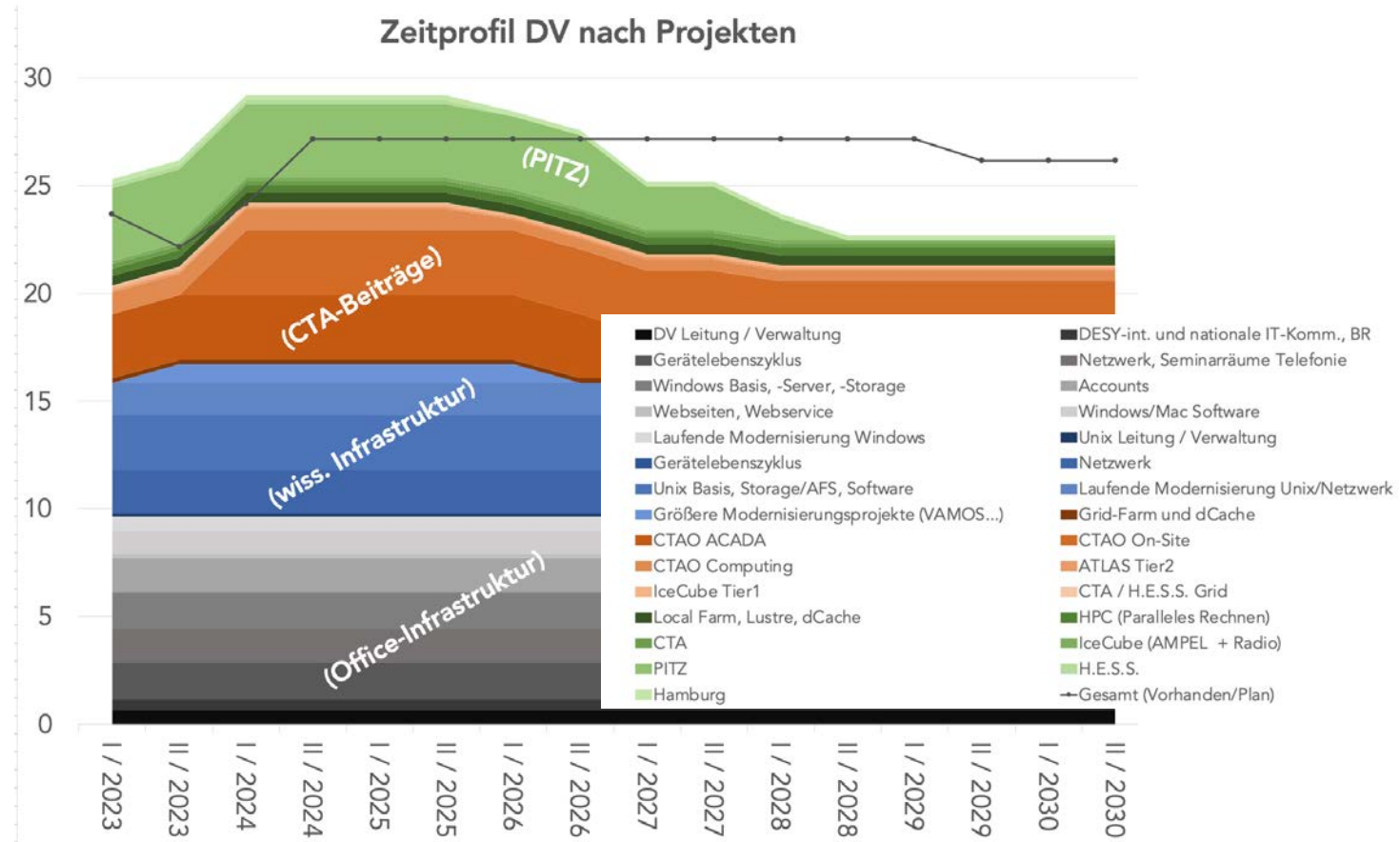
Hybrids on test panels ready for testing



Computing Board

News

- Preparing CTA Computing Centre
 - New Hires planned this and next year
 - But: Very difficult to find people, open positions since a while in DV
- Confluence follow-up Xwiki
 - Going delayed
 - For now, Confluence remains alive, but DESY internal only



Some new scientific highlights

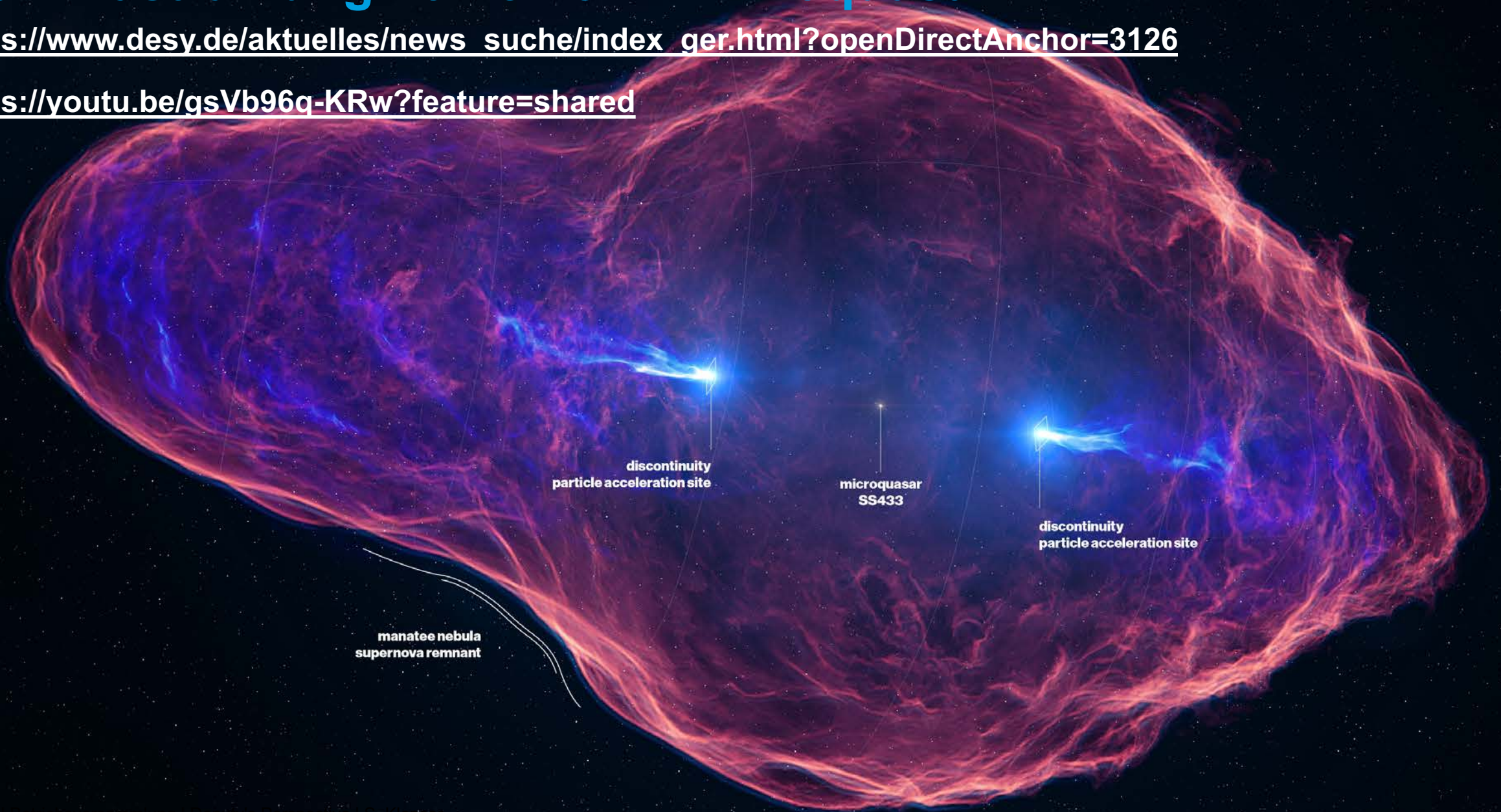
Since Dec



Gammastrahlung von einem "Mikroquasar"

https://www.desy.de/aktuelles/news_suche/index_ger.html?openDirectAnchor=3126

<https://youtu.be/gSVb96q-KRw?feature=shared>



discontinuity
particle acceleration site

microquasar
SS433

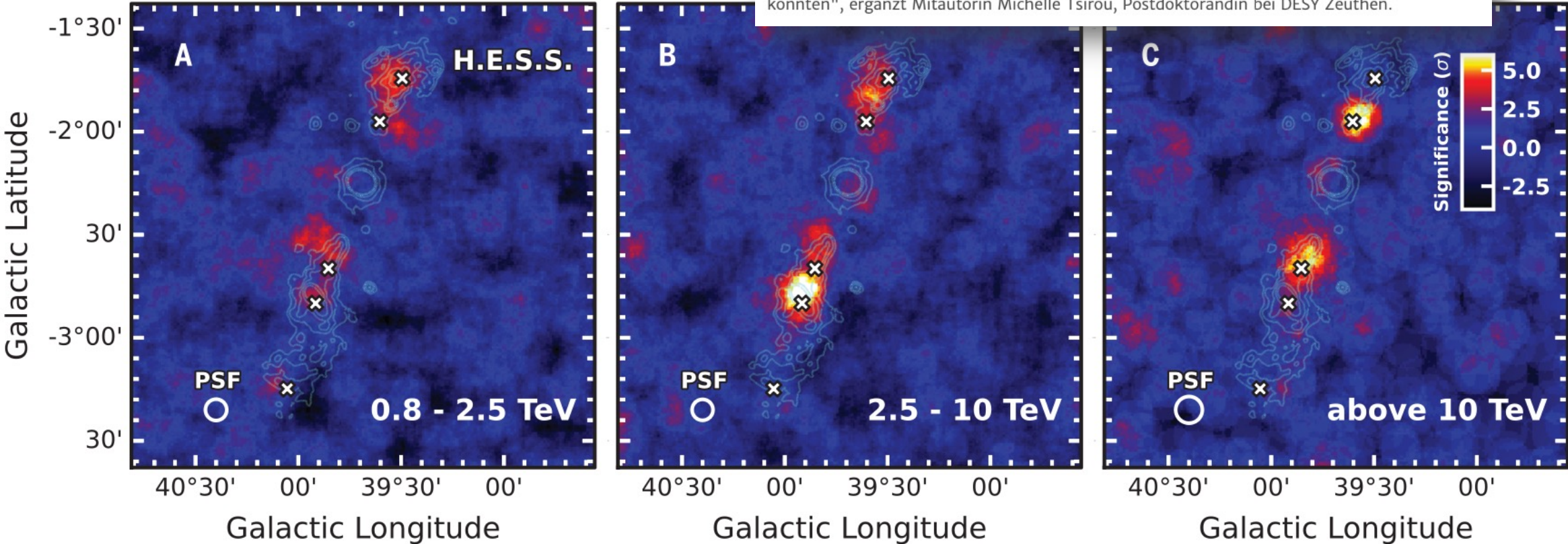
discontinuity
particle acceleration site

manatee nebula
supernova remnant

Gammastrahlung von einem "Mikroquasar"

Unterüberschrift

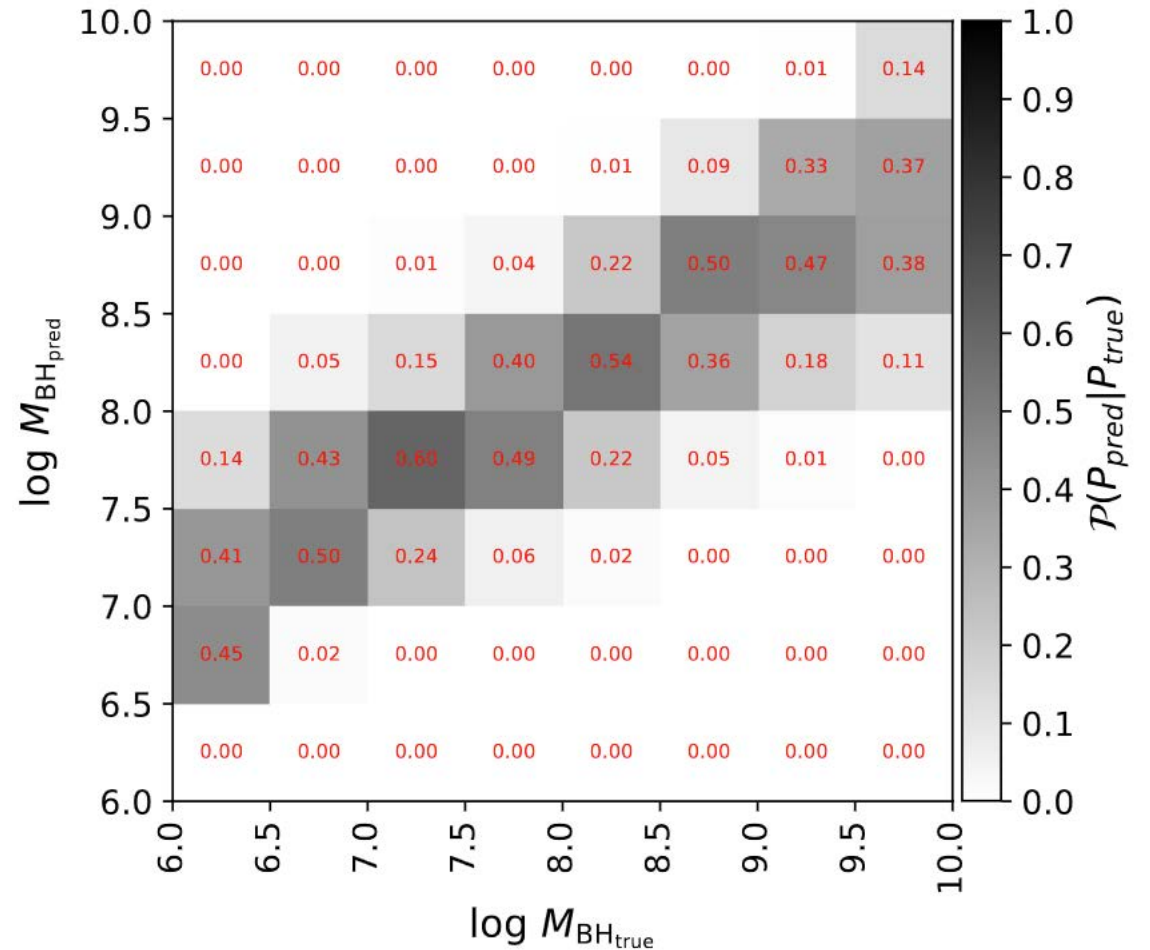
"Noch vor wenigen Jahren war es undenkbar, dass bodengestützte Gammastrahlungsmessungen Aufschluss über die innere Dynamik eines solchen Systems geben könnten", ergänzt Mitautorin Michelle Tsirou, Postdoktorandin bei DESY Zeuthen.



Analyse von Aktiven Galaxien mit Maschinellern Lernen

Sarah Mechbal et al. (2024)

- Aktive Galaxien wichtige Neutrinoquellen, es gibt aber für die meisten nur sehr unvollständige Beobachtungen
- Wir nutzen Maschinelles Lernen, um mit verschiedenen Spektralinformationen trotzdem eine Aussage machen zu können (rechts z.B. die Masse des zentralen Schwarzen Lochs)
- Online-Katalog mit Parametern von 21050 Galaxien!
- Zur Veröffentlichung in A&A angenommen, arXiv:2303.18076v2



AM³ - finally public!

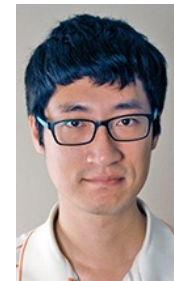
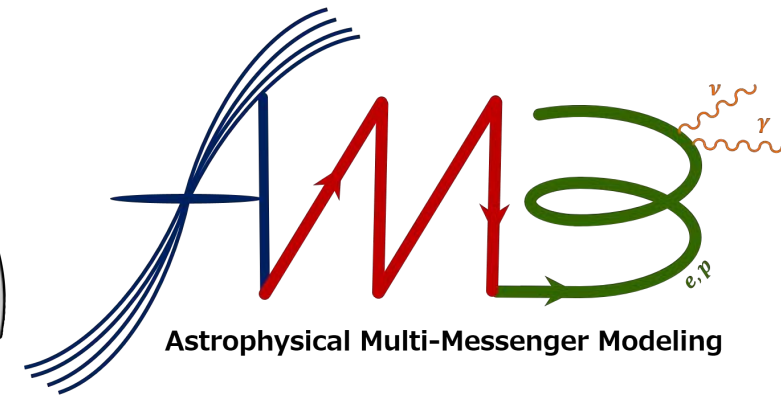
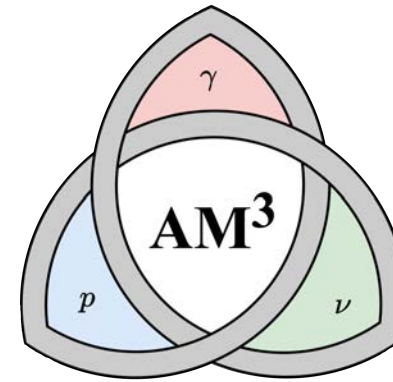
Astrophysical Multi-Messenger Modeling (AM³)

Source Modelling software

- To simulate multi-messenger emission of sources
- Time dependent transport
- for protons, electrons, photons, pions, muons, neutrinos
- speed optimized (steady state in ~10s)
- component tracking
- written in C++, interface to python
- used already for blazars (initially Gao++ 2017), GRBs, TDEs
- public including documentation!

→ [arXiv:2312.13371](https://arxiv.org/abs/2312.13371)

Gao++ APJ 843 (2017)



Gao



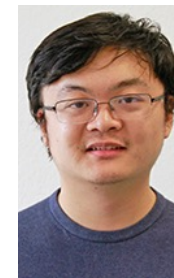
Klinger



Rudolph



Rodrigues



Yuan



Fichet De
Clairfontaine



Fedynitch



Winter



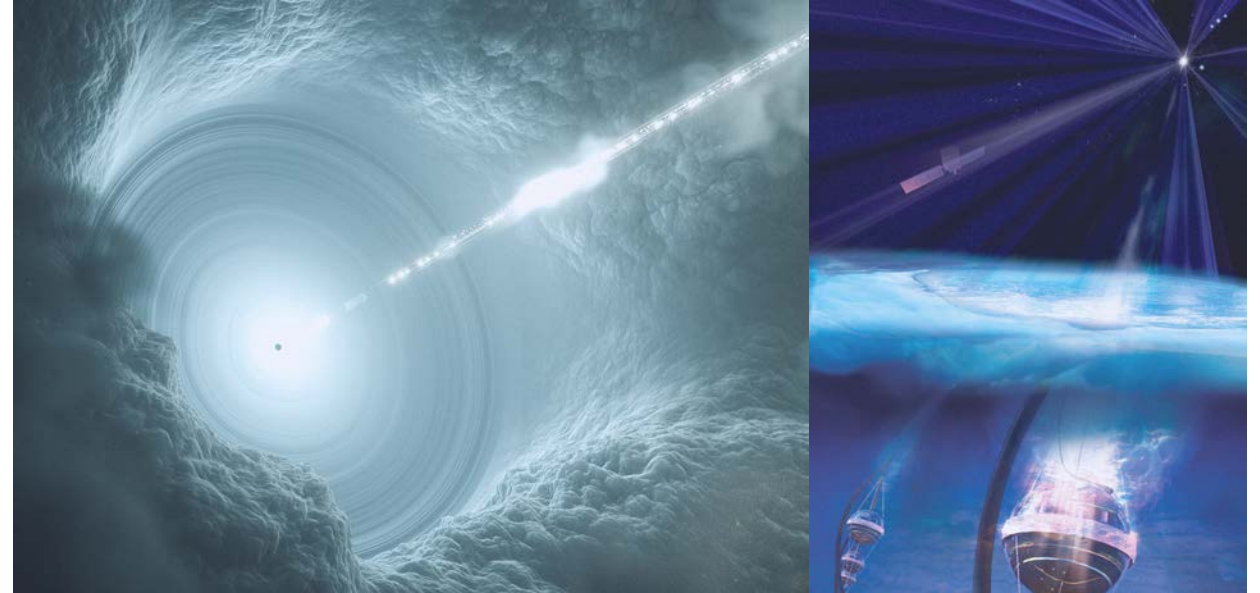
Pohl

New in the Gamma group: Prof.Dr. Sara Buson

<https://sarabuson.github.io/>



Professor at University
Würzburg
Joint appointment with
DESY
ERC Grant “*MessMapp*”

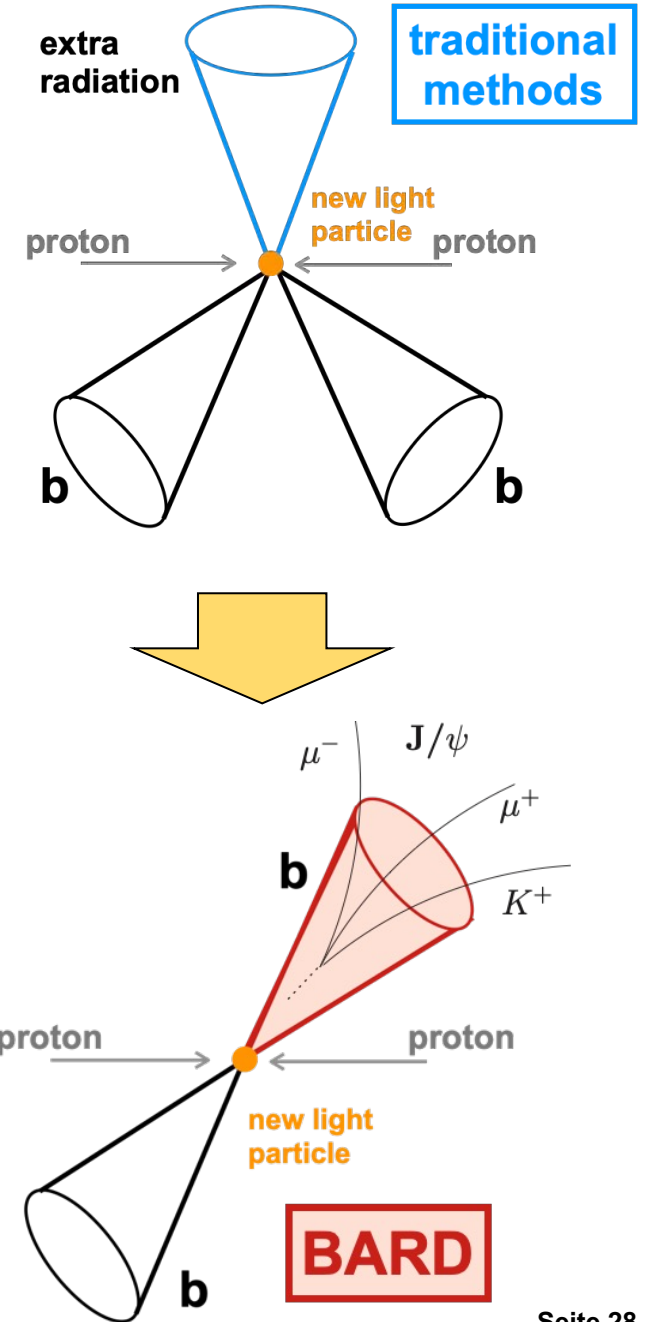
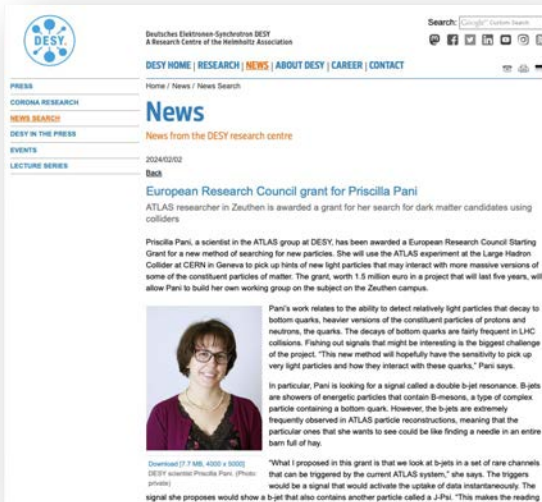


Multi-messenger astrophysics
Gamma-ray and Neutrino correlations of AGN

BARD: B-resonance Algorithm using rare Decays (ERC Starting Grant)

Novel search method for light particles at the LHC

- Novel experimental technique to search for light mass di-bjet resonances at colliders
- Model agnostic approach
- Change the trigger paradigm for these searches by using low momentum B-Physics datasets and techniques



2024

Here you come – what good things will happen (on the campus)

- We'll get to have a new canteen
- It will get quieter and cleaner again
- The Campus group will be restructured
- The office situation will relax eventually
- Cool new people will start working with us
- Two changes in the directorial board happen
- We'll have a Campus day
- We'll talk a lot, share perspectives and keep in contact with each other



Thanks.