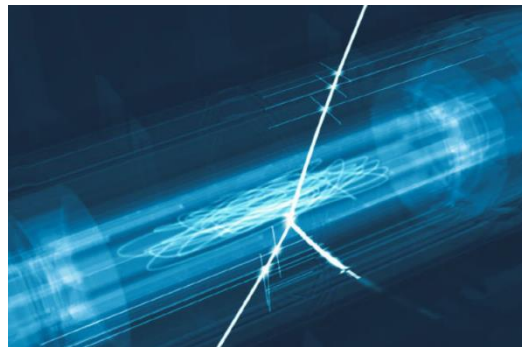


# SPSC Related ADUC Meeting



antihydrogen trap

**Stefan Ulmer et al.**

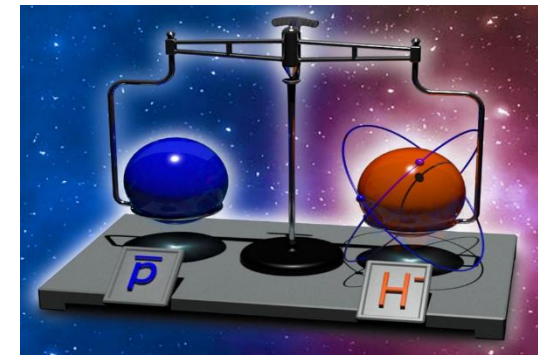
HHU Düsseldorf,

RIKEN

2025 / 02 / 11

AD-Chair

on behalf of the AD-collaborations



antiproton/proton balance



# Memory on colleagues that will be missed

- Hannes Zmeskal
- Joel Fajans
- Walter Oelert
- Toshi Yamazaki





# Some Dates 2024/2025

2024

Thanks to Eberhard and SMI !!!

LEAP2025  
26.08.2025



- LEAP2027 or 2028 will take place in Canada, organized by Makoto, Tim et al.
- LEAP 2029 of 2030 will take place in Düsseldorf, organized by Stefan, Christian, Barbara et al.

2025

European Strategy Update  
31.03.2025



Call for proposals for projects at the CERN Antiproton Decelerator after L53

The CERN Antiproton Decelerator (AD) is a unique facility which has been operating since 2000 providing low-energy antiprotons to a range of experiments measuring the properties of antiprotons and antineutrons.

The ELENA (Extra Low Energy Antiproton) decelerator is now fully commissioned providing antiprotons with energy of 0.1 MeV to the AD experimental areas, and now experiments are being prepared for using the AD antiprotons for measurements at other locations.

In order to support and plan the long-term experimental programme at the AD and ELENA, including the corresponding required consolidation and possible upgrade possibilities, CERN needs to understand the requirements of the experiments now and in the mid-long term future. As such, the SPSC is mandated to review the proposed programmes for projects using the antiprotons from the AD and ELENA after L53 together with an indicative long-term strategy beyond L54. This review will encompass both projects, which are currently operating in the AD hall as well as potential future projects which propose to make use of the antiprotons.

In order to undertake this review, the SPSC is issuing a call for proposals for projects at the AD following L53.

Proposals should be submitted to the SPSC by 1 May 2025, and should address the physics or technology case behind the proposal, and what are the expected use of CERN resources requested by the proposal. First indications of long-term operation or upgrade opportunities beyond L54 are encouraged.

The SPSC expects to prepare recommendations to the Research Board for approval of projects by June 2025.

Potential applicants are invited to address questions about the process to the scientific secretary of the SPSC.

Deadline for submission of new proposals:  
01.05.2025

Decision on proposal evaluation and recommendation to the RB:  
06/2026





# Call for proposals for projects at the CERN Antiproton Decelerator after LS3

- The CERN Antiproton Decelerator (AD) is a unique facility which has been operating since 2000 providing low-energy antiprotons to a range of experiments measuring the properties of antiprotons and anti-atoms. The ELENA (Extra Low Energy Antiproton) decelerator is now fully commissioned providing antiprotons with energy of 0.1 MeV to the AD experimental areas, and new experiments are being prepared for using the AD antiprotons for measurements at other locations.
- **In order to support and plan the long-term experimental programme at the AD and ELENA, including the corresponding required consolidation and possible upgrade possibilities, CERN needs to understand the requirements of the experiments now and in the mid/long-term future. As such, the SPSC is mandated to review the proposed programmes for projects using the antiprotons from the AD and ELENA after LS3 together with an indicative long-term strategy beyond LS4. This review will encompass both projects, which are currently operating in the AD hall as well as potential future projects which propose to make use of the antiprotons.**
- In order to undertake this review, the SPSC is issuing a call for proposals for projects at the AD following LS3. **Proposals should be submitted to the SPSC by 1 May 2025**, and should address the physics or technology case behind the proposal, and what are the expected use of CERN resources requested by the proposal. First indications of long-term operation or upgrade opportunities (beyond LS4) are encouraged.
- The SPSC **expects to prepare recommendations to the Research Board for approval of projects by June 2025**. Potential applicants are invited to address questions about the process to the scientific secretary of the SPSC.





# Program Today

## ADUC Meeting

Tuesday 11 Feb 2025, 13:30 → 18:00 Europe/Zurich

3162/1-K01 (CERN)

zoom ADUC Meeting

Join

3162/1-K01

13:30 → 13:40 **Opening**

Speaker: Prof. Stefan Ulmer (HHU Düsseldorf / RIKEN)

10m

13:40 → 14:10 **Review and Summary - AD/ELENA Performance**

Speaker: Laurette Ponce (CERN)

30m

14:10 → 14:40 **Summary of Facility Operation and YETS**

Speaker: Francois Butin (CERN)

30m

14:40 → 16:00 **Discussion**

1h 20m

16:00 → 16:30 **Closed Discussions - Spokespersons**

30m

**From around 17:30: Drinks in the AD-Meeting-Room in 93 – organized by BASE**





AOB





# Schedule – Committee Visit

1: Intro, AD visitor entrance – S. Ulmer, 13:45

2: AEgIS – R. Caravita, 14:00

3: ALPHA – J Hangst, 14:15

4: ASACUSA – E. Widmann and M. Hori, 14:30

5: BASE – S. Ulmer, 14:45

6: GBAR – P. Perez, 15:00

7: PUMA – A. Obertelli, 15:15





# European Strategy Update – SD:31.03.2025

- Propose to submit a joint document
  - Each Collaboration five to ten pages
  - Introduction and Outlook by AD-chairs
- New Proposals – how shall we reach out to people
  - PAX - Nancy Paul / Paul Indelicato
  - Hbar2- - Stephan Schiller (S.U.)
  - Slow Extraction Experiments (L.V.)
  - Antideuteron
- Will be coordinated / managed by Barbara (...and SU)

## Input to the European Strategy for Particle Physics - Antimatter Program at CERN

AD

January 31, 2025

### Contents

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2.2.2	Testing the WEP with precision spectroscopy of laser cooled positronium	3
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2.5.1	Probing QCD with matter-antimatter bound states	9
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<b>5</b>	<b>BASE</b>	<b>15</b>
<b>6</b>	<b>GBAR</b>	<b>15</b>
<b>7</b>	<b>PUMA</b>	<b>15</b>
<b>8</b>	<b>New Proposals</b>	<b>15</b>
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8.2	Physics with antideuteron	15







# Call for proposals for projects at the CERN Antiproton Decelerator after LS3

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- The SPSC **expects to prepare recommendations to the Research Board for approval of projects by June 2025**. Potential applicants are invited to address questions about the process to the scientific secretary of the SPSC.

Some related questions are currently under discussion





# Evaluation – Comment Jordan

For the May meeting we will just have the paper proposals - We will then need to go through these and **determine which will need to be followed up with open presentations**, and the timescale for doing so.

**Much of this exercise is to get a long-term view of the potential for use of the AD, so we won't be making recommendations about approvals, but just looking at potential resource implications and the timescales for those being understood.**

Jordan

Should we organize our own meeting / workshop / conference to present our own proposals / to have proposals by others interested users presented? Or we just wait for the committee to invite us (or not)? (tentatively not...???)

Open to discuss (con)



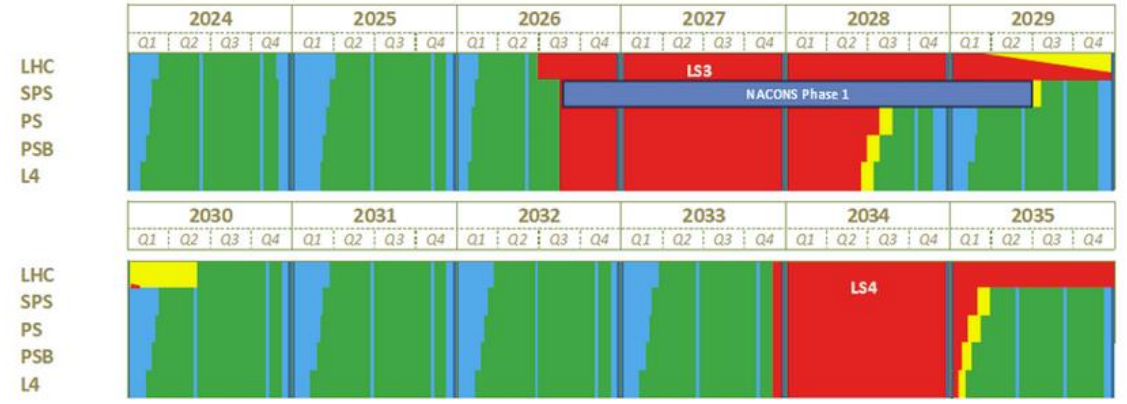


# Accumulation of Quick Statements

#1 Operation after LS3: 2028 to 2033

#2 Operation after LS4: 2035 to 2042

Long Term Schedule for CERN Accelerator complex



Collaboration	#1	#2	beyond
AEGIS			
ALPHA			
ASACUSA			
BASE			
GBAR			
PUMA			





# Other Future Potential Contributors





# Organization of Future Controversial Request

- History: Some GBAR requests made it to
- For requests that potentially affect other users:
  - Mail to AD-Chairs
  - Distribute to Spokespersons
  - Green Light from everyone
  - -> to CERN





# Controversial – Use of Helium

- Jeff





# New AD – Chair?

- Currently: S. Ulmer (since 2017) and B. Latacz (since 2022)
- Situation:
  - S. U. is happy to continue, but is often out of CERN, has a big lab to organize at Ddorf, and cannot anymore follow-up all details at CERN.
  - B. L. is happy to continue.
  - So please think about alternative candidates if wanted.

