



Joint COMPASS-AMBER Technical Board 8-February-2022

Stefano Levorato
8.02.2022

Agenda

- **General Communications**
 - Approval of the minutes of the last TB
 - Mandate renovation
 - CV status – Flammable gas availability - Cryo
 - Beam Delivery update
 - Request for ECALs calibration → Transversity group/Run coordinator
 - Survey Campaign → Nikos Request → Transversity group/Run Coordinator
 - Electrical safety (status) / MN coils / DSO test
 - SM2 leak repair
 - DC5 intervention
 - W45 Intervention
 - Beam Monitor at the COMPASS beam dump (Dipanwita request)
 - Amber Meeting for Hydrogen gas system LSD - TPC installation (EP Sapety + HSE)
 - ALPIDE licensing
 - Agenda → Detector intervention/ planning repair reinstallation

Minutes, and TB membership

Apologies from Daniele Panzieri, Norihiro Doshita → will join later

Approval of the minutes of the last TB

Renewal of the mandate of

1) Norihiro Doshita (I) February 2022 → Extend till End 2022

CV status – Flammable gas availability - Cryo

1) Restart of CV cooling tower and system is in time

→ Stable running operation is expected from beginning of March

There is the possibility to have both raw and chilled water earlier (mid Feb) since CV is well on track.

Switch to chilled water asap since the cooling efficiency of the COMPASS DAQ cooling standalone system is degraded due to the large amount of dust and dirt → Visit in place with CV-Detector

1) Intervention for cleaning (waiting for the offer)

2) Consolidation for the future (asked for a cost evaluation)

2) On 21 we will perform the test of the Flammable gas system operation (908+COMPASS), possible short electrical interruption affecting the COMPASS ATEX area.

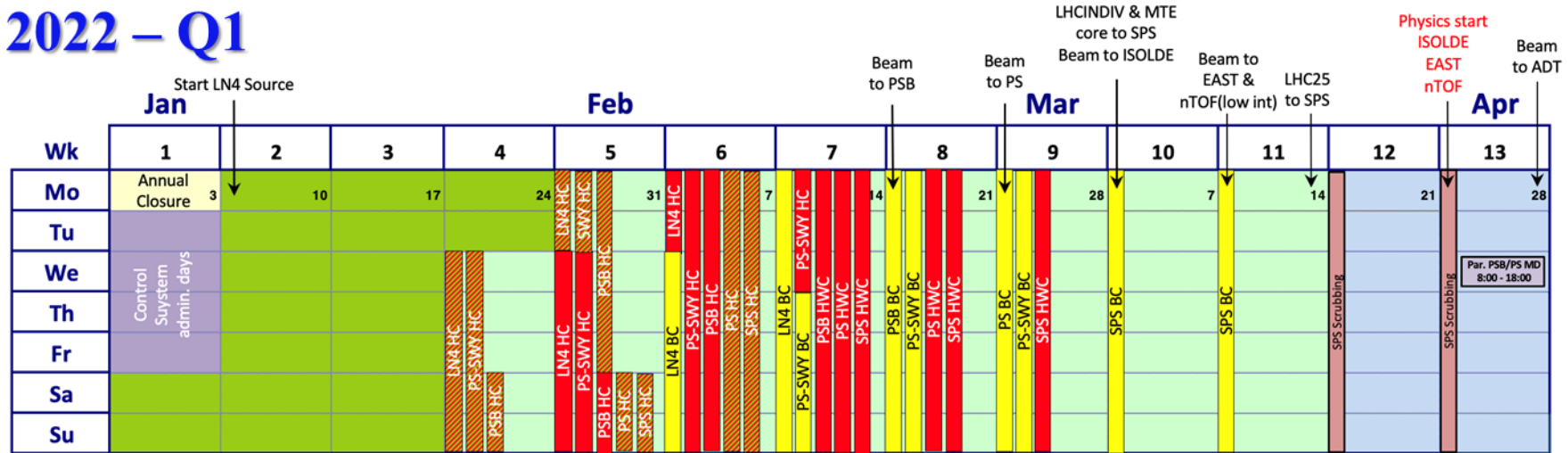
→ Beginning of March ready for the visit with FGSO for the in the 888 hall for final inspection before asking for the flammable gas usage, feedback from detector experts for the leak rate measurement.

3) Agreed with Cryo a more frequent refilling of the LN DEWAR to improve the filling of the LN of the cold silicon system, new threshold will be set to warn for the refill.

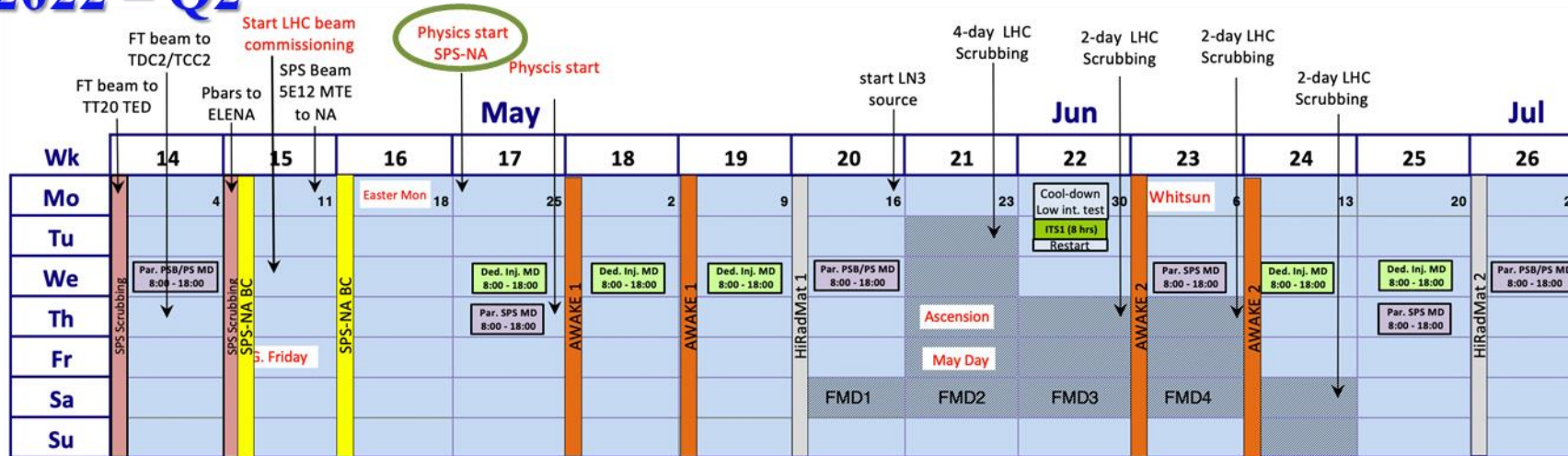
Liquid Helium for PT operation asked as soon as possible, considering maintenance of the He pump ~ beginning of March

BEAM delivery UPDATE (Draft)

2022 – Q1



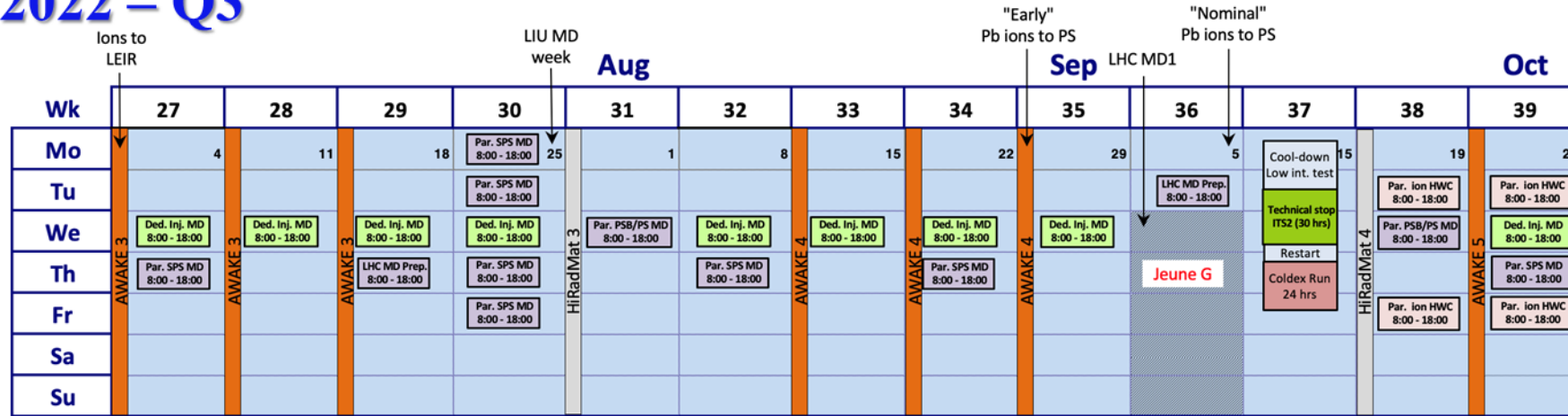
2022 – Q2



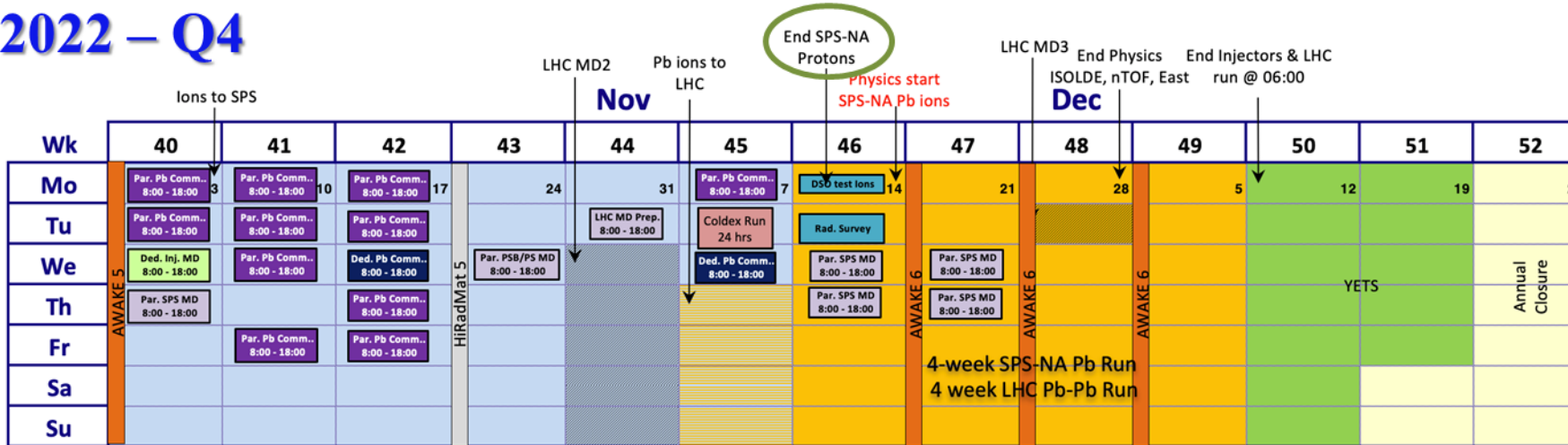
2 weeks
 subtracted to
 NA physics
 28.09.2021

BEAM delivery UPDATE (Draft)

2022 – Q3

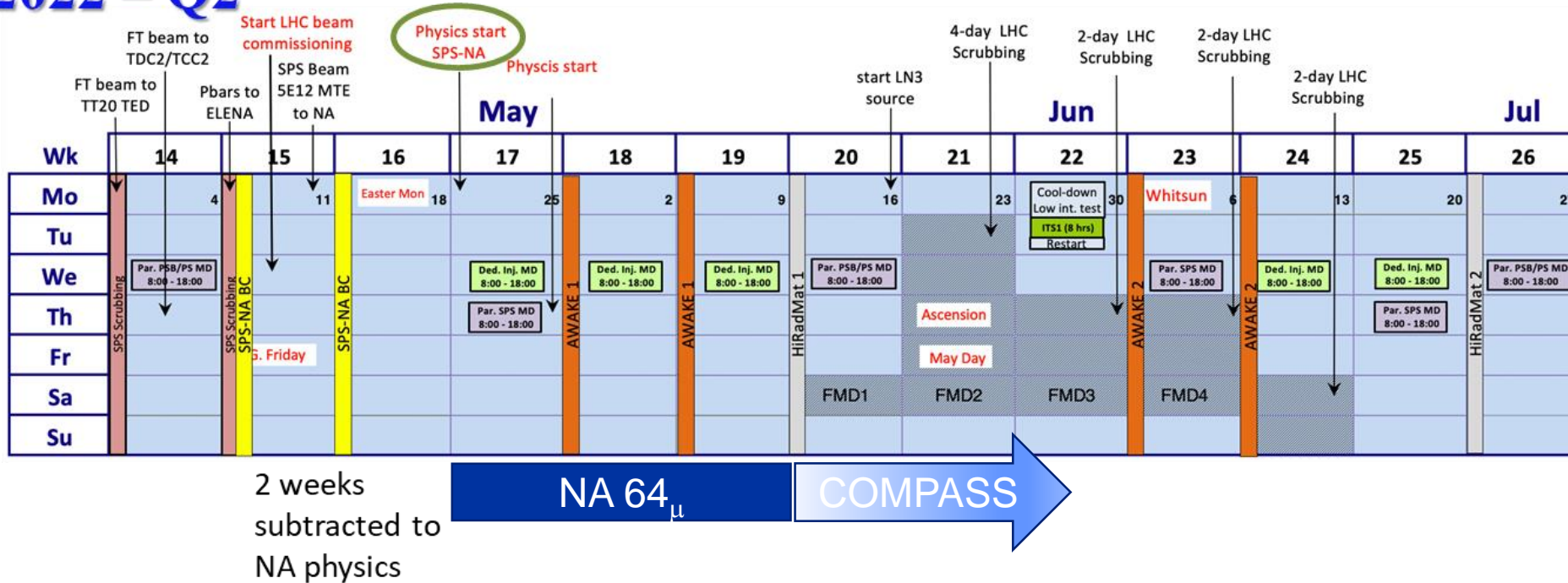


2022 – Q4



BEAM delivery UPDATE (Draft)

2022 – Q2



Beam delivery to NA W15 ~ 11 of April → Detector commissioning with beam may start: access to the hall to be agreed with BE

NA64_μ is already installed the beamline, ~ 23 days of beam time requested

Week 17 (25 of April) commissioning of NA64_μ We need to profit as much as possible of this period for our commissioning

Week 18 and 19 NA64_μ data taking

COMPASS can start collecting data starting from week 20/21

BE communication: beam charge availability:

- **Electron beam availability 2022**

Dear All,

Hope you are doing well.

As you maybe already know we noticed a vacuum leak upstream of M2 after the T6 target last year following which an intervention was performed separating the vacuum into two sectors:

Vacuum sector 1 from magnet QNR.061005 (vacuum start 3.7m after the target) to magnet MTN.061035 (vacuum end 37.3 m):

Vacuum sector 2 the big (900mm diameter) vacuum chamber right before XTAX.061052 (vacuum start 38.5 m – vacuum end 49.33m)

The second vacuum sector unfortunately needs to be replaced as the leak has gotten worse and now the chamber is under atmospheric pressure.

The chamber that is used is a large 90 cm diameter chamber to accommodate the deflection of the 400 GeV proton beam for the maximum current in Bend 1 for both polarities. As this is a high radiation zone we are trying to understand a bit if we can optimise this intervention and will very much appreciate your feedback.

The options we have are:

- 1) Live with this 11 m air which will have minimal impact on the muon beam but a larger impact on the electron beam. **So the estimated time needed for calibration of the detectors can potentially double.**
- 2) Replace the leaky larger chamber with a smaller chamber which will give us the option to prepare this externally, test it and then place it in position for a shorter intervention time.
- 3) **Try to fix the leak in the chamber in situ which will require a ALARA Level 3 intervention due to the time required.**

In order to consider option 2 we wanted to check with you if for this year we can live with only positive polarity beam ? This will directly half the required size for the chamber. If you can please let us know if this could be a possibility we will check how much we can optimise the size in this case. Also if you would have any feedback for the point of the electron beam for option1 for example please let us know. I would like to add as well that this concerns only this year. During this year a larger chamber will be prepared externally and then during the YETS 2022/23 it can be placed in the beamline. We are very sorry for this inconvenience and appreciate very much your feedback to understand more precisely **the requirements of beam for this year to be able to plan this intervention.** Please let us know soon if you **can as we have to make a decision very soon.**

Thank you very much in advance.

Best Regards,

Dipanwita

Transversivity group – Run coordinator feedback

- **ECALs Calibration**

- In view of the planning of the beam delivery schedule it would be important to try to fix, if requested, the electron beam request in terms of energies and dates
- Has to be coordinated with ECAL expert presence (possible quarantine requests), planning is needed

- **Survey**

From: Nikolaos Charitonidis

Sent: 03 February 2022 18:31:57 (UTC+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna

Subject: Survey activities for next YETS table -- To be completed asap

Dear all,

As discussed in the last EATM, and also as per the e-mail of J-F below, please find attached a table with the survey activities that need to take place in the EATM related experimental areas **for the next months and also the next YETS (2022/23)**. Please feel free to directly edit the document online- it will be then shown / validated in the next EATM of the 22nd of February. **Our survey colleagues need it by 12/02**, so the sooner you can complete it the better. Here is the direct (editable) link :

<https://1drv.ms/w/s!Au6iOEKmkwljgguDCnHK-hgvyzbG>

Electrical Safety

- **Electrical installations for COMPASS (consolidation)**

- Intervention requested to EN/EL to fix the electrical non conformities for what concern the infrastructure
 - New cabling, new Canalis installation, dedicated lines for CAEN Mainframes (25A) target: end of February upon EN/EL availability
- EP-DT support requested to fix missing grounding and other non conformities
- Electrical non conformities at detector level are not attacked yet → Detector experts (Mail sent with photos and EDMS N 2643017)

- **Electrical installations for AMBER**

- Intervention requested to EN/EL for the new installations
 - New DAQ power distribution with detachable plugs : target middle March



SPSX-LJ-WD-0002 v.0.5 "MANDATE OF THE NORTH AREA DECABLING WORKING GROUP" by Michael Jeckel Link: <https://edms.cern.ch/comment/2611997/0.5>

YETS 2022/2023 –EHN2 → REQUEST by M.J. of Identify and marking old cables to be removed also in the experimental area → Detector Experts

Electrical Safety II + SM2

- **Electrical installations for COMPASS (consolidation)**
 - Replacement of defective MN coils → requested to be performed during February
- **DSO tests (consolidation)**
 - Foreseen for 15 of March, no services interruptions but NO access to the experimental hall ~2 to 4 h
- **SM2 Leak Repair**
 - Water leak from SM2 piping should be fixed this week (Hans Danielsson)

BEAM monitor installation at the EHN2 Beam Dump

Dear Vincent, Stefano,

Thank you very much for the information. So for the beam profile monitors and scintillators that we plan to place downstream of COMPASS we will consider three possible positions:

- 1) Magnets OFF (both SM1 and SM2)
- 2) 160 GeV beam and SM1 - 1 Tm and SM2 - 4.4 Tm
- 3) 280 GeV beam and SM1 - 1 Tm and SM2 - 5.2 Tm

Is this ok ? If you have any other updates for the high energy run for AMBER - if this will be used or if the magnets will be displaced, or if another power supply will be used etc., **please let me know as soon as possible. We have to drill the holes for the support for these positions so** if we should consider any other option, it will be very good to know. Otherwise, it will be difficult to provide it during the run.

Thank you very much in advance.

Best Regards,

Dipanwita

COMPASS 2022 detector repair

DC5 repair

University of Champaign and Illinois will travel during next weekend to perform the repair operation of the DC5
Located at the moment in the clean room: Repair Intervention is planned 14 February - 25 February
Team of 5 people (April, Caroline, Eric + 2 technicians) + local support only during the installation in the beam position

W45 repair

Materials for the gas monitoring system (O_2/H_2O contamination) ordered in October last year, not delivered yet.
Repair of the W45 will most likely not happen this year by the LIP group. Manpower issues

AMBER: LSD + ALPIDE licensing

LSD discussion for AMBER

<https://cern.zoom.us/j/69338740848?pwd=c2V3TlgyZUc4L1JyVFdjK3E0Mk81QT09>

Quand : jeudi 10 février 2022 08:45-10:15. (UTC+01:00) Belgrade, Bratislava, Budapest, Ljubljana, Prague

Où : <https://cern.zoom.us/j/69338740848?pwd=c2V3TlgyZUc4L1JyVFdjK3E0Mk81QT09>

Discussion:

TPC construction / certification / requirements → Kiselev O.

GAS system construction requirements → Dziuba A.

Mechanical support system → Kiselev O., Vasilyev A.

Time should be mature enough to start the full integration of the Detector Systems and Infrastructural needs Engineering support

ALPIDE Licensing

Good progress in the last months, (huge amount of work from colleagues). ALPIDE chips available for users in 1 month from now (latest info).

UTS

Update by Martin L.

Agenda

Joint COMPASS -AMBER Technical Board

Tuesday 8 Feb 2022, 09:00 → 18:00 Europe/Zurich

892/1-D20 (CERN)

16_11_21_TB_minu...

Videoconference COMPASS Technical Board [Please log in](#)

09:00	→ 09:20	Report From TC Speaker: Dr Stefano Levorato (INFN Trieste (IT) and CERN)	20m
09:20	→ 09:40	AMBER TPC Gas System Speakers: Aleksel Dzuluba (NRC Kurchatov Institute PNPI (RU)), Alexander Vasilyev (NRC Kurchatov Institute PNPI (RU))	20m
09:40	→ 10:00	PT preparation 2022 Speaker: Michael Pesek (Charles University (CZ))	20m
10:00	→ 10:10	HCAL 1 Speaker: Oleg Gavrilshchuk (Joint Institute for Nuclear Research (RU))	10m
10:10	→ 10:20	Plans for the DC detectors Speaker: Stephane Platchkov (Université Paris-Saclay (FR))	10m
10:20	→ 10:35	Coffee Break	15m
10:35	→ 10:50	Silicon preparation 2022 Speaker: Christian Dreisbach (Technische Universität Muenchen (DE))	15m
10:50	→ 11:00	MWPC repair plan Speaker: Maxim Alexeev (Università INFN Torino (IT))	10m
11:00	→ 11:20	Status of GEM production for 2022 Speaker: Dimitri Schaab (University of Bonn)	20m
11:20	→ 11:30	Fiber detectors and tracking stations. Speaker: Martin Jan Losekamm (Technische Universität Muenchen (DE))	10m
11:30	→ 11:50	COMPASS and AMBER DAQ: Status and Plans Speaker: Igor Konorov (Technische Universität Muenchen (DE))	20m
11:50	→ 12:10	RICH-1 planning Speaker: Chandradoy Chatterjee (INFN Trieste (IT))	20m
12:10	→ 12:20	MM restart Speaker: Damien Neyret (Université Paris-Saclay (FR))	10m