

Towards GSI 2021

General and technical aspects and few numbers

Limitation due to Covid-19

A specific registration is requested related to Covid-19 pandemic, information can be found here:

https://www.gsi.de/work/organisation/stabsabteilungen_stellen/welcome_office

Before leaving to GSI, you will need to:

- **Get tested** against Covid-19 (<48 hours before leaving, **antigenic test valid**)
- Register at the following link, uploading the test certificate:

<https://einreiseanmeldung.de/#/>

Important: quarantine no longer needed (since May 14th)

FOOTers @ GSI 2021

Green= already vax

Orange= 2vax june

black= no vax in july

Purple= I don't know

The indication is 2 persons per detector..when possible..

Detector	People
Margherita (2)	Giacomo Traini, Marco Toppi
TOF wall (2)	Matteo Morrocchi , Andrea Moggi (sost Maurizio Massa)
DCH (1)	Yunsheng Dong
Vertex (2)	Christian Finck*, Eleuterio ??
MSD (2)	Leonello Servoli, Keida Kanxheri/Mattia Barbanera, Gianluigi Silvestre
Calorimeter (2)	Lorenzo Scavarda, Nazar Bartosik/sostituto
DAQ coordination (2)	Riccardo Ridolfi, Mauro Villa
Software coordination (1)	Alessio Sarti
Trigger coordination (1)	Roberto Zarrella (sost: Marco Francesconi e Luca Galli)
Run coordination (2)	Michela Marafini, Francesco Tommasino (sost: Sofia Colombi)

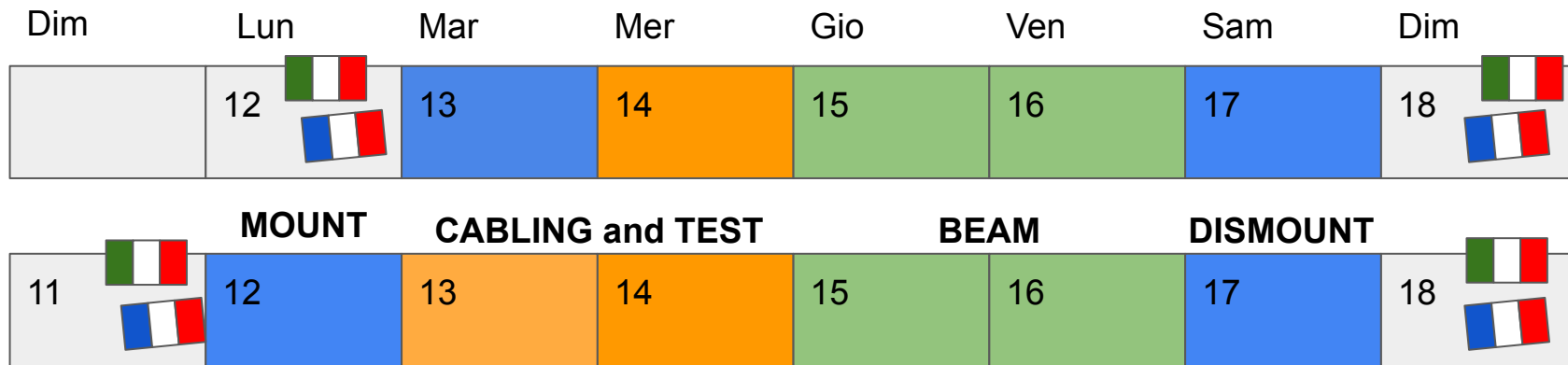
*Marie Vanstalle, Alexandre Sécher will join exploiting a 'not foot' collaboration



This list contains 19 participants...too many, the agreement was on 15 people!

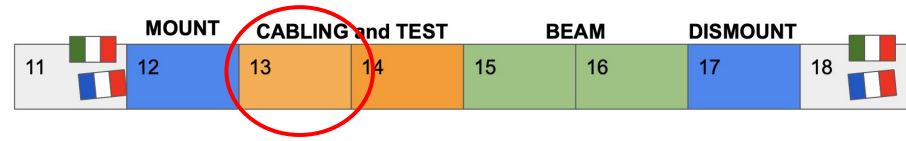
Time Schedule

- The beam has been confirmed (80%) to be 15-16 July
- While no quarantine is request we can:



- Space division in cave and control room.
- Electronic space definition in CAVE! (we can try to fix it before going to gsi)

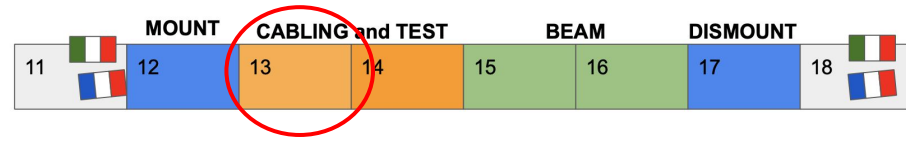
=> Test Beam => Data Taking



- Uli safety/general Instruction :)
- Dosimetry and co..
- **Detector setup in cave => No more than 6 people at the same time..**
 - 1) Mechanics (table and supports) (1h)
 - 2) TOF WALL and DCH (1h)
 - 3) TOF Wall and Margarita (1h)
 - 4) Vertex and Calo (1h)
 - 5) MSD and Calo (1h)
- **Electronics and Cabling Detectors in cave => max 6 people**
 - 6) TOF WALL and DCH (1h)
 - 8) TOF Wall and Margarita (1h)
 - 9) Vertex and Calo (1h)
 - 10) MSD and Calo (1h)
 - 11) DAQ (1h)

IN CAVE

=> Test Beam => Data Taking



- SETUP of the people..
- setup for DAQ/TRIGGER/GENERAL CONTROL
- **PC SETUP in control room=>**

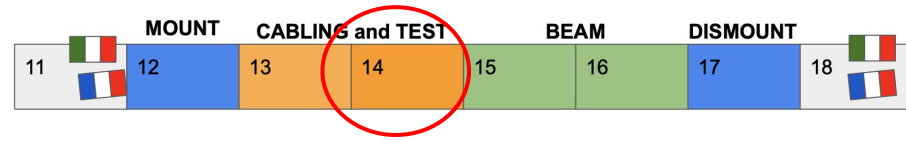
IN CONTROL ROOM

- 1) ..
- 2) Out signals.. MJ, Trigger, ..
- 3) 4 ch Oscilloscope in remote control (2 analog ch of DCH?, MJ)
- 4) Something to check the beam.. :)

No more than:

- **2+1 people Control Room**
- **8 people in “open air tables”**

=> Test Beam => Data Taking

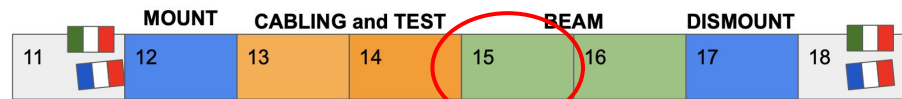


- **Connection to software in cave => max 6 people**
- **General system setup in cave**
 - 12) Trigger (2h)
 - 13) DAQ (2h)
- **Switch on detector and fix problem (noise for example) in cave**
 - 14) TOF WALL and DCH (1h)
 - 15) TOF Wall and Margarita (1h)
 - 16) Vertex and Calo (1h)
 - 17) MSD and Calo (1h)

IN CAVE

We are planning to bring a second wavedaq create to run in oscilloscope-modality outside the DAQ system ..


=> Test Beam => Data Taking



Calibration with Oxygen beam			
Energy	GSI machine energy setup	200 MeV/u	
Target	Detectors must removed from the beam line	no	yes
Margarita	x	and a dedicated Delta Cable Run	
TOF wall	x	How many points?	100kevents*
DCH	x	alignment	
Vertex	x	alignment	
MSD	x	x	
Calorimeter	x	x	x
DAQ		x	x
Trigger		x	x
Software		x	x

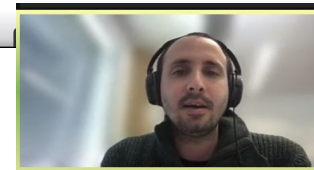
Es.

Fragmentation trigger calibration



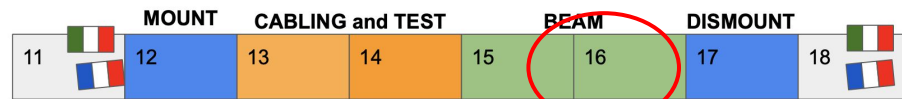
- Assumption: first hour or so dedicated to minimum bias, in parallel trigger can be calibrated as follows
 - Step 1: analyse minimum bias events and produce the pulse height and charge distributions for TW central channels
 - possible both with stand alone dedicated code and SHOE
 - check margarita hit and veto timing both online and offline
 - Step 2: apply thresholds and restart the run: fragmentation trigger still disabled
 - no need to stop the DAQ for more than a minute or so to load new thresholds
 - Step 3: measure minimum bias and fragmentation trigger rates and prepare the prescaling values for fragmentation trigger run
 - further check anti-coincidence timing
 - Step 4: at the end of the minimum bias run (or when ready) start with fragmentation run
 - DAQ configuration can be prepared in parallel to data collection
- Important: the trigger calibration is performed parasitically to the main DAQ, so no dead time is induced
 - must be done for all beam energies

Zoom, 25-05-2021



L. Galli, INFN Pisa

=> Test Beam => Data Taking



Calibration with Oxygen beam			
Energy	GSI machine energy setup	400 MeV/u	
Target	Detectors must removed from the beam line	no	yes
Margarita	x	x	
TOF wall	x	x	10kevents*
DCH	x	alignment	
Vertex	x	alignment	
MSD	x	x	
Calorimeter	x	x	
DAQ			
Trigger		x	x
Software		x	

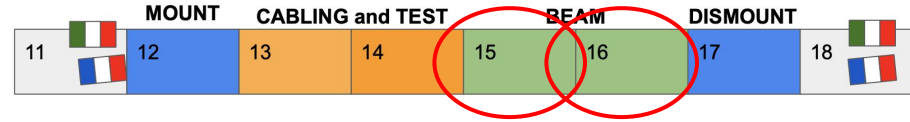
Remember that when we change energy we have to leave the beam to GSI

Fragmentation trigger calibration

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Zoom, 25-05-2021 L. Galli, INFN Pisa

=> Test Beam => Data Taking



	Data Taking			
Energy	200 MeV/u		400 MeV/u	
Target	C	CH	C	CH
Thickness [mm]	5	5	5	5
Density [g/cm ³]	1.83	1	1.83	1
Number of events		Tanti!		
Distance (Target-TW) [cm]	180	180	180	180
WaveDAQ frame rate				
Cross-section Measurements				

Do we agree on that?
 Maybe CH of 10 mm
 is a better choice?

Physics measurements to be discussed: when/who?

A long (but very close) way

- Next meeting: 7th June 9:30

Please, fill/check the online Excel sheet for logistic:

	A	B	C	D	E
1		Planning List - FOOT@GSI 2021			
2					
3			Cave or control room (outside)?	connection to control room needed? what cable?	Questions from GSI
4					
5		Trento Group	Cave		
6		- Margherita detector (Start Counter for emulsion setup)	Cave		
7		- Drift Chamber detector (needs Ar/CO2 80/20 flux)	Cave		
8		- 1 crate NIM + few electronic boards	Cave		
9		- 1 crate VME + few electronic boards (needed for independent DAQ of emulsion setup)	Cave		
10		- Lemo cables (3 m) connecting the Drift Chamber to the TDC VME	Cave		
11		- Mechanical support for emulsion setup (shown in .stp file)	Cave		
12		- 2 low voltage power supply units	Cave		
13				did you check the height (if you put your rail on our blue rail?) The distance between upper edge of the the blue rail and beam	