

The Infrastructure Team

Roberto Menegazzo

INFN – Sezione di Padova



AGATA Week, February 18, 2021



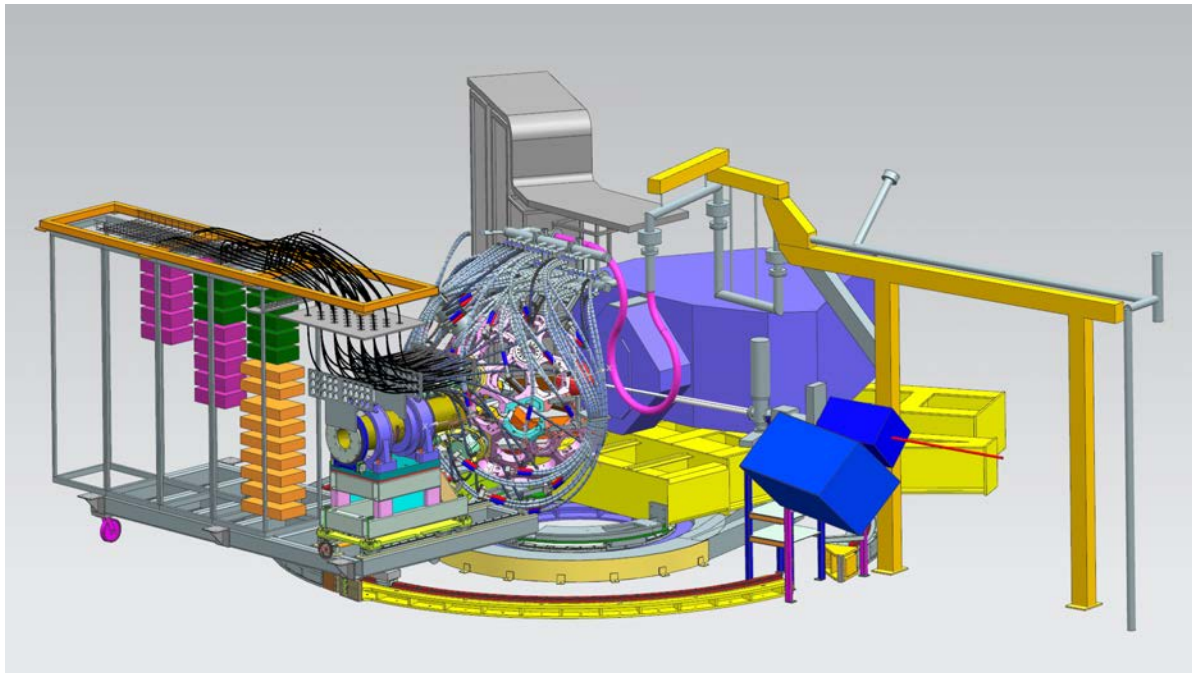
Agenda and WG activity

- LNL installation and constraints on infrastructure projects
- Cabling
- Detector patch box
- LVPS and LN2 filling system: *Magda Zielinska*
- Data Base: *Cécile Aufranc*
- EMC prescriptions and tests: *Nabil Karkour*

Infrastructure WG meetings 2020: 2x General, 1x Patch Box, 4x Autofill, 3x EMC, 1x Mechanics & Autofill, 1x Autofill & LVPS

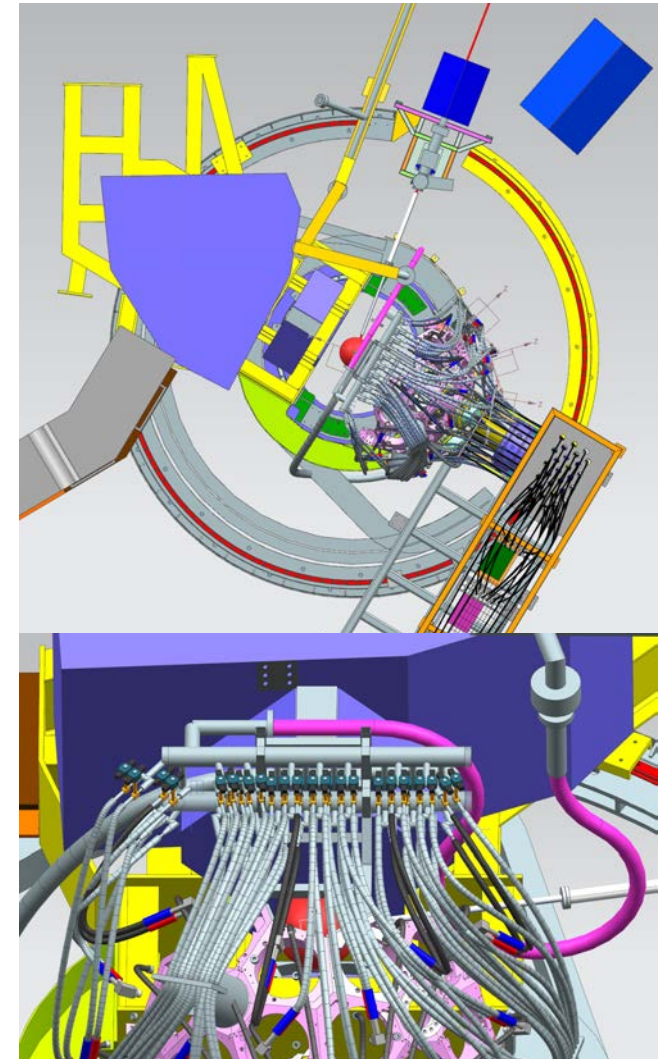
Current WG members: M.Zielinska, T.Joannem, A.Lotodé, M.Karolak, C.Aufranc, O.Stezowski, N.Karkour, E.Clément, B.Million, RM

Overview and LN2 hardware



Extended angular range: rotation from 20 to 110 degree (*88 degree for measurements*)
High efficiency configuration: -55 mm
Easy detector mounting: ± 85 degree rotation
Targer access: 750 mm translation

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N.Bez, M.Rampazzo, L.Ramina, INFN - Padova

LN2 system

Hardware

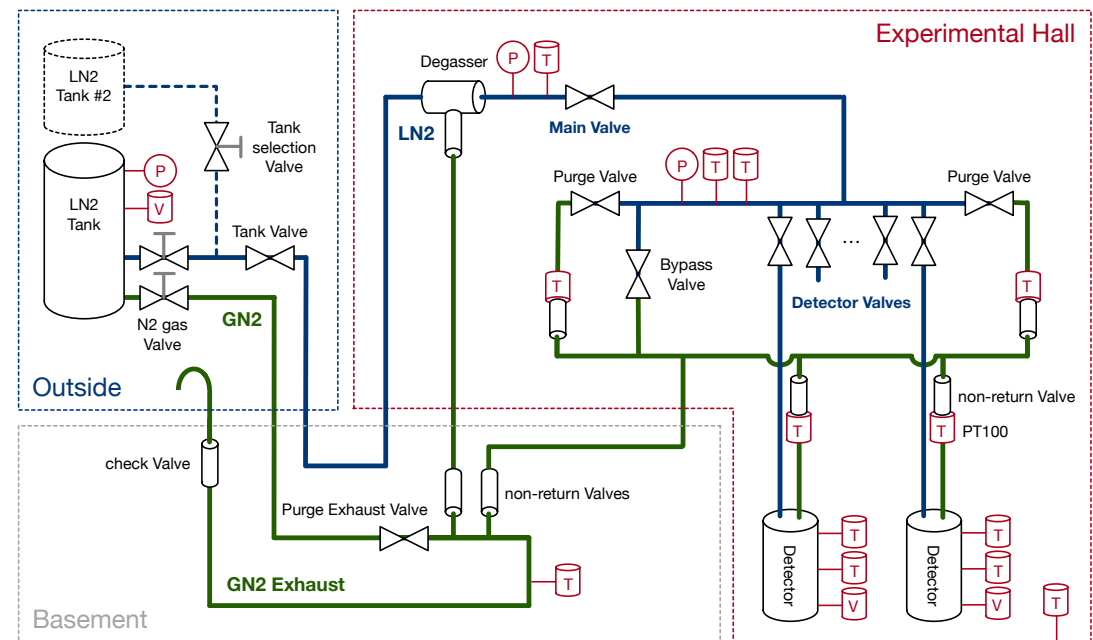
- **project ready**, execution will start in few weeks
 - external tank
 - line cold and forced exhaust
 - tank valve and main control valve
 - 4 detector valves (max) open at the same time
 - extra P and T sensors
- test of **new cryogenic valves** in progress at LNL
- identified **other components**: purchase will start soon

Control System

- **Saclay** in charge of PLC software development, GUI and LN2 cabinet
- decision on **cable characteristics** still pending

Operation

- **integration** with the LNL safety system
- **documentation, procedures and training** of personnel (general and AGATA specific)



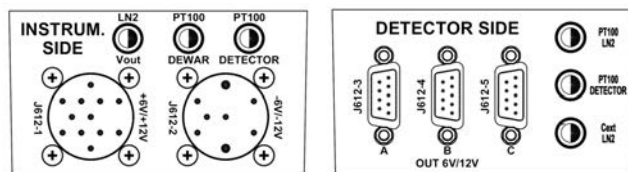
Infrastructure - Detector Support System

LVPS

- maintenance of 17 existing units ($\pm 6/12V$ & 48V for one ATC in the same crate) completed
- prototype of new units (separate $\pm 6/12V$ & 48V crates for 8 ATC) ready. Ongoing test at Saclay. Final test at GANIL in April/May

Detector patch box

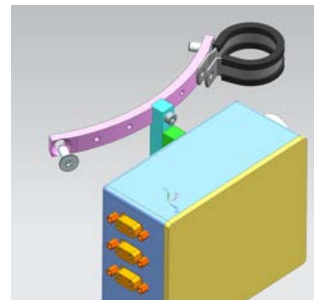
- 19 existing units
- 12 new modules (upgraded mechanics and new connector layout) tested at Saclay, final mounting in Milano
- mounting brackets with cable fixing (SFTC)



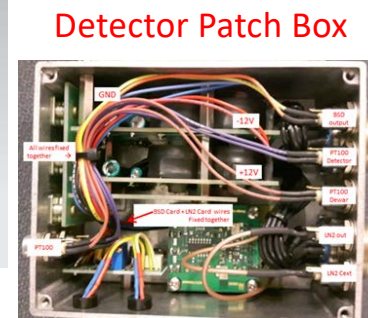
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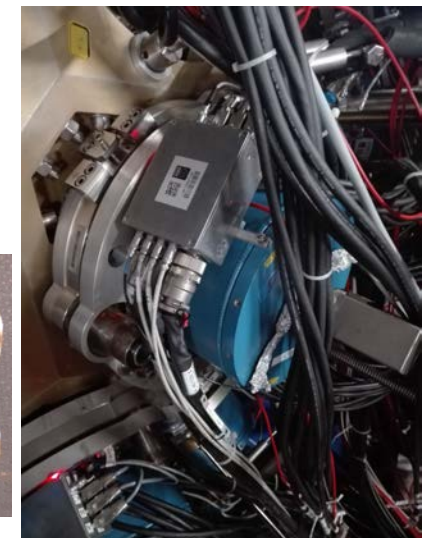
Digitizer LVPS: 48V crate



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Detector Patch Box



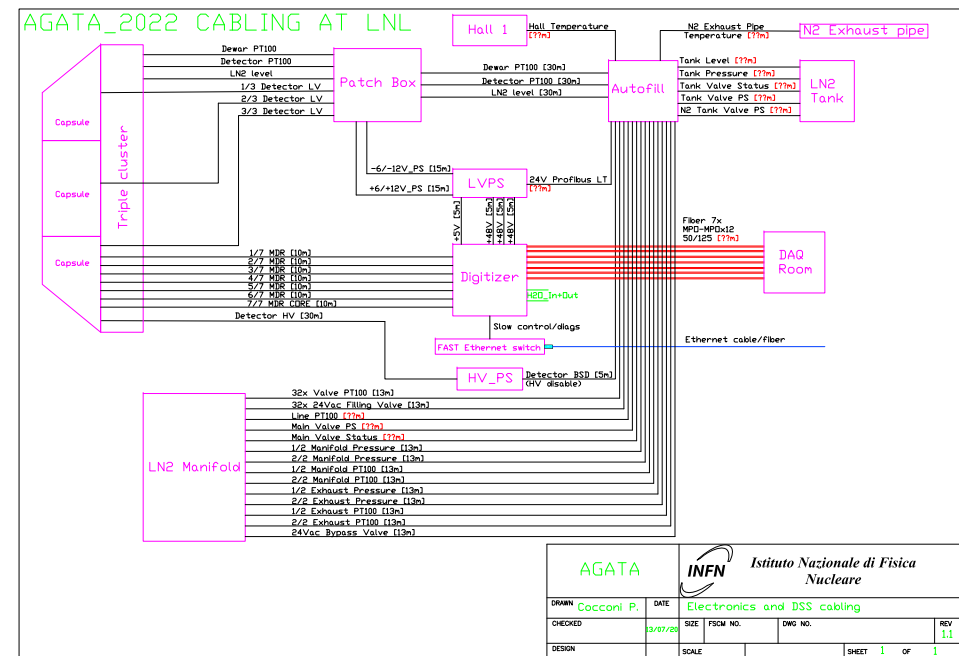
Infrastructure - Detector Support System

Cables

- defined **length** and label names
- 315 detector **MDR delivered** (HN-CLL-10M from HTK). Acceptance test performed at LNL (samples)
- New detector **HV (GX_04273-12)** ordered. Delivery started
- 10 **detector LV $\pm 6/12V$** and 15 **digitizer 48V available**. New cables purchased and arrived at Saclay
- **240 m optical links** validated for V1 and V2 electronics

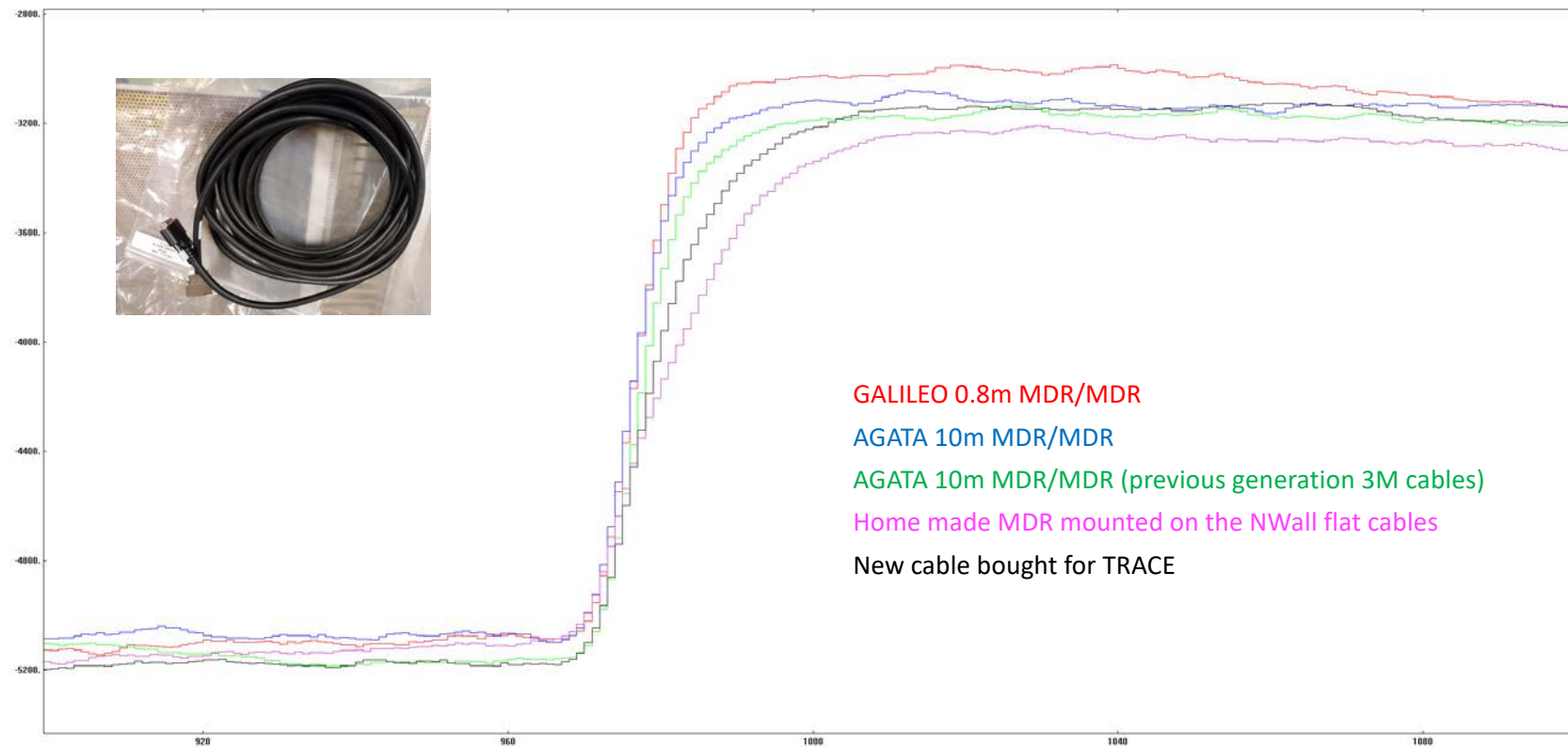
EMC

- interaction with the mechanics WG: defined technical prescriptions and test



MDR Cables

A.Goasduff, INFN – Laboratori Nazionali di Legnaro



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Details on the LNL installation

AW session on March 17, 2021

Task 1, Infrastructure: Roberto Menegazzo

Task 2, AGATA Mechanics: Nicola Bez, Loris Ramina, Mirco Rampazzo, Marco Scarcioffolo, D. Giora

Task 3, Experimentation mechanics: Giovanna Benzoni

Task 4, Safety and Quality: Maria Luisa Allegrini, Daniela Benini, Luca de Ruvo

Task 5, Computing and network infrastructures: Michele Gulmini, Massimo Biasotto, Sergio Fantinel

Task 6, Surveyor: Daniele Scarpa

Task 7, Detectors: Walter Raniero, Davide Rosso

Task 8, DAQ-Electronics: Alain Goasduff, Nicola Toniolo

Task 9, Complementary instrumentation: Daniele Mengoni

Task 10, Performance: Fabio Crespi, Simone Bottoni

Task 11, Exploitation: Andrea Gottardo, Oliver Wieland

Task 12, Data Analysis: Francesco Recchia

Task 13, Logistics: Paolo Cocconi

Task 14, Documentation and data base: Vincenzo Volpe

Task 15, Public exposure of AGATA activities: Andrea Gozzelino