

LSM Experiments Meeting 2020 - News and Update

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LPSC - LSM

14/12/2020

1 Organization

2 Infrastructures

COVID

Most activities maintained during lockdowns

- First lockdown (April-May)
 - HPGe LN₂ refill
 - Samples change (2 times per week)
 - EDW/Cupid operations
- Second lockdown
 - No impact ... except sanitary measures
 - Reduction of car seats (9 → 6)
 - Mask is mandatory inside the lab

Manpower

- New arrival
 - Permanent position for *Christian Ranieri*
- Departure
 - *Evelyne Garçon* gets a position at CPPM on KM3NeT
 - *Michel Zampaolo* will retire in 2021
- News for 2021
 - *Thierry Zampieri* : Safety officer, following Evelyne
 - Two temporary positions obtained from IN2P3
 - Electrical technician
 - Software engineer

Radon-Free air status

Several meeting in 2020 (José Busto, Ivan Stekl and SuperNEMO team involved)

- Restart of the current system
 - ATEKO and JDK (cooling) visit LSM in order to understand failure/repair
 - Cooling gas leakage (not solve)
 - dryer is aging
 - efficiency
 - to much air consumption
- Design of the new system
 - Cooling capability are limited at LSM
 - We are already at the limited
 - Increasing the airflow from 120 m³/h to 300 m³/h is impossible
 - Discussion with the tunnel to increase cooling capabilities
 - Complicated discussions (COVID crisis did not help)
 - If a solution is found, it will not be for 2021

Radon-Free air plan for 2021

- New cooling and dryer units
 - Studying the possibility to cooldown to -80°C for better radon reduction
- Reduction of the working pressure (10 bar \rightarrow 4 bar)
 - low impact on radon reduction (TBC)
 - simplify periodic verifications
 - very significant reduction of power consumption
 - *usual dryers are not designed to perform well at those pressures*
- Increasing the airflow to $250 \text{ m}^3/\text{h}$

SuperNEMO & DAMIC-M

- DAMIC-M Clean room
 - Preparation of location
- SuperNEMO
 - Space for J-Trap
 - Taking into account enlargement of neutron shielding
- Common infrastructure work
 - Reinforcement of the platform
 - Platform for J-Trap
 - Stairs have been moved

PARTAGe

- Delay due to COVID
 - 6 detectors already installed
 - 4 shielding to mount
- Plan for 2021
 - Progressive disassembly of detectors in Germanium room
 - Retrieve lead and transfert it to the foundry
 - Start installation of marinelli detectors
 - Complete installation of the 16 “small detectors”
 - Installation of the Anti-Radon tent