

New proposal for joint WPs meeting(s)

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“Le LIME est mort, vive le CYGNO-04”

- LIME operation have been formally concluded
- Congratulations to ourselves for the successful realisation of PHASE-0 of the CYGNO experiment!
- LIME underground campaign produced a plethora of high quality physics runs data (Run4 & Run5), accompanied by critical calibration measurements with various radioactive sources
- Even if still only partially fully analysed, these data already provided us critical insights on background sources, as well as ways to minimise them in CYGNO-04 (i.e. Radon gas contamination and double sealed vessel configuration)
- It is now time to set up a coordinated and coherent effort able to maximise the outcome of PHASE-0 and to prepare us to CYGNO-04 challenges
- This newly proposed meeting sets into this context, with the aim of establishing a joint path among different WPs towards these goals
- While here we are proposing a single occurrence, we believe this could be the kick-off opportunity to repeat this on a couple of months basis

First Joint WPs meeting topics and goals

- “We are we with LIME”
 - Discuss all the analysis and simulation efforts currently ongoing on LIME data
 - Pin point which experimental performances we want to demonstrate with LIME data
 - Establish which physics measurements/limits we can obtain from LIME data
 - Understand which tools we still need to finalise/develop to achieve the required experimental performances/capacities to achieve these goals
- “We do we want to go with CYGNO-04”
 - Identify CYGNO-04 main differences w.r.t. LIME in terms of layout (i.e. multiple cameras), DAQ + trigger strategy, calibration strategy, analysis strategy etc
 - Understand how to and working towards optimise these from LIME experience
 - Establish which physics measurements/limits we can obtain from CYGNO-04 operation
 - Understand which tools we can start to develop already now from LIME experience to achieve these goals
 - Push forward R&D on radiopure material procurement and development towards future larger realisation of CYGNO experimental approach
 - Start developing new physics cases which could further support the development of CYGNO-30

Practical proposal

- 2 day meeting in person
- After INFN written test ;)
- Either at GSSI or in Rome
- Due to management constraints, a possible week is emerging within 16-19 June but in Rome
- Any idea/comment?