CYGNO - Meeting

News

Meetings

Nikita Kazeev (Moscow - High School of Economics) about development of Machine Learning algorithms:

- Proposal of using some sample of our data for International Data Analysis Olympiad (IDAO https://idao.world/);
- Nikita will collaborate (informally for the moment) with GSSI Computing Engineers to develop a “selection algorithm” to be trained on our simulation and tested on our data;
- Need to provide them simulated samples;

Coimbra Group:

- We have showed them results about preliminary Isobutane tests performed in Roma (see Francesco’s talk) and agreed about how to reproduce and integrate them with their setup;

CERN Common Project:

- We discussed about different R&D setup and proposed to buy ITO electrodes for Luminescence studies

PRIN

A call for RESEARCH PROJECTS OF RELEVANT NATIONAL INTEREST (https://www.prin.miur.it/) was presented in October;

Deadline 26/01/2021;

INFN should be notified by 11/01/2021;

I'll send a doodle to arrange a meeting for discussing CYGNO participation with interested people

Activities at LNF (1)

LIME is still unmounted waiting for the central camera modification to house Resistive Foil field cage (KFC);

It is expected to be ready next week;

Cesidio realised designs for a new cathode frame, compatible with bandella-FC and KFC and able to host also thin-foil based cathodes;

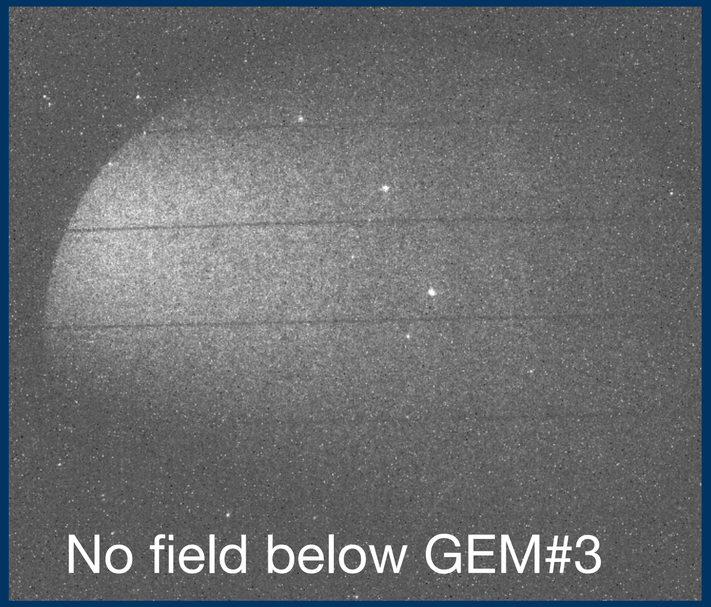
Shipping order will be placed these days;

Moreover they are working to the design of a new prototype, 10x10 cm^2, with 25 cm drift able to overcome all LEMON issues (gas leakages, very difficult modification of GEM stack) that can be used for R&D in lab.

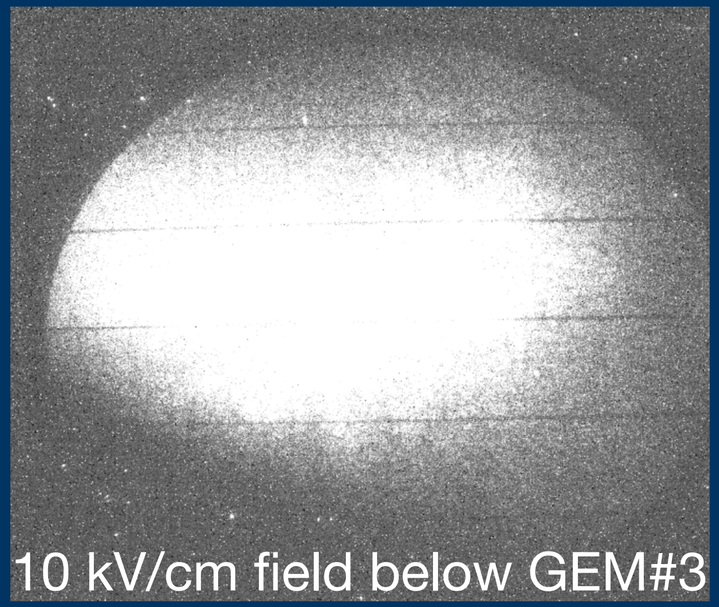
Activities at LNF (2)

- In LEMON we are trying to study in more details luminescence phenomena induced by electrons below the last GEM as a part of more general studies about gain saturation and possible solutions;

- A mesh is being used to accelerate them;
- The mesh screens more than 55% of light, spoils image reconstruction and triggers sparks;
- ITO would be a solution;



No field below GEM#3



10 kV/cm field below GEM#3

Light increase is very well visible and now we are trying to understand if electric file is also inducing some charge gain;

General schedule

Lab	Detector	Test	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21
RM1	ORANGE	Hydrocarbon						
LNF	LEMOn	Luminescence/Saturation						
	LIME	Palazzi						
		KFC						
		Install Bandellas (if needed)						
		55Fe + AmBe + 137Cs						
		Migdal+Ar						
COIMBRA		Hydrocarbon						
GSSI	MANGO	Luminescence						
		GEM thickness						
		Fluoromethanes						
		AmBe/Ba						

We are on schedule.
A small delay in LIME re-working because of Palazzi (and general) Covid-issue;

No important news from LNGS (i.e. LIME installation on the April 1st could be delayed)