

News

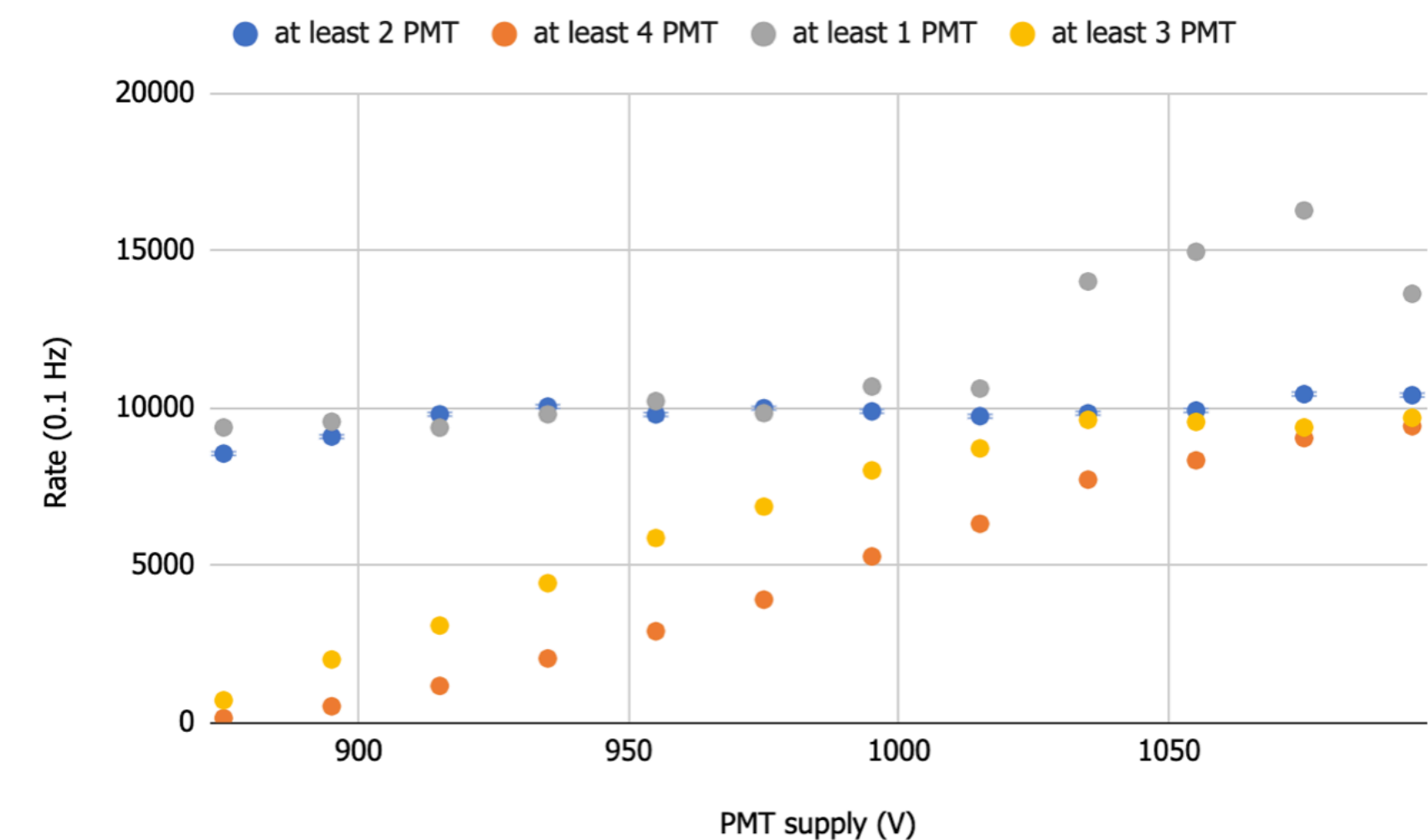
LIME under test

- In July, with Chiara, we studied the behaviour of rates on single PMTs as a function of HV finding very similar behaviour with tests with pulser

Thanks to the GSSI task force (Flaminia, David and Eleonora) we tested LIME:

- Trigger performance (**done**);
- Multi-energy X-ray data (**done**);
- ^{55}Fe Z-scan and V_{GEM} -scan (**done**);

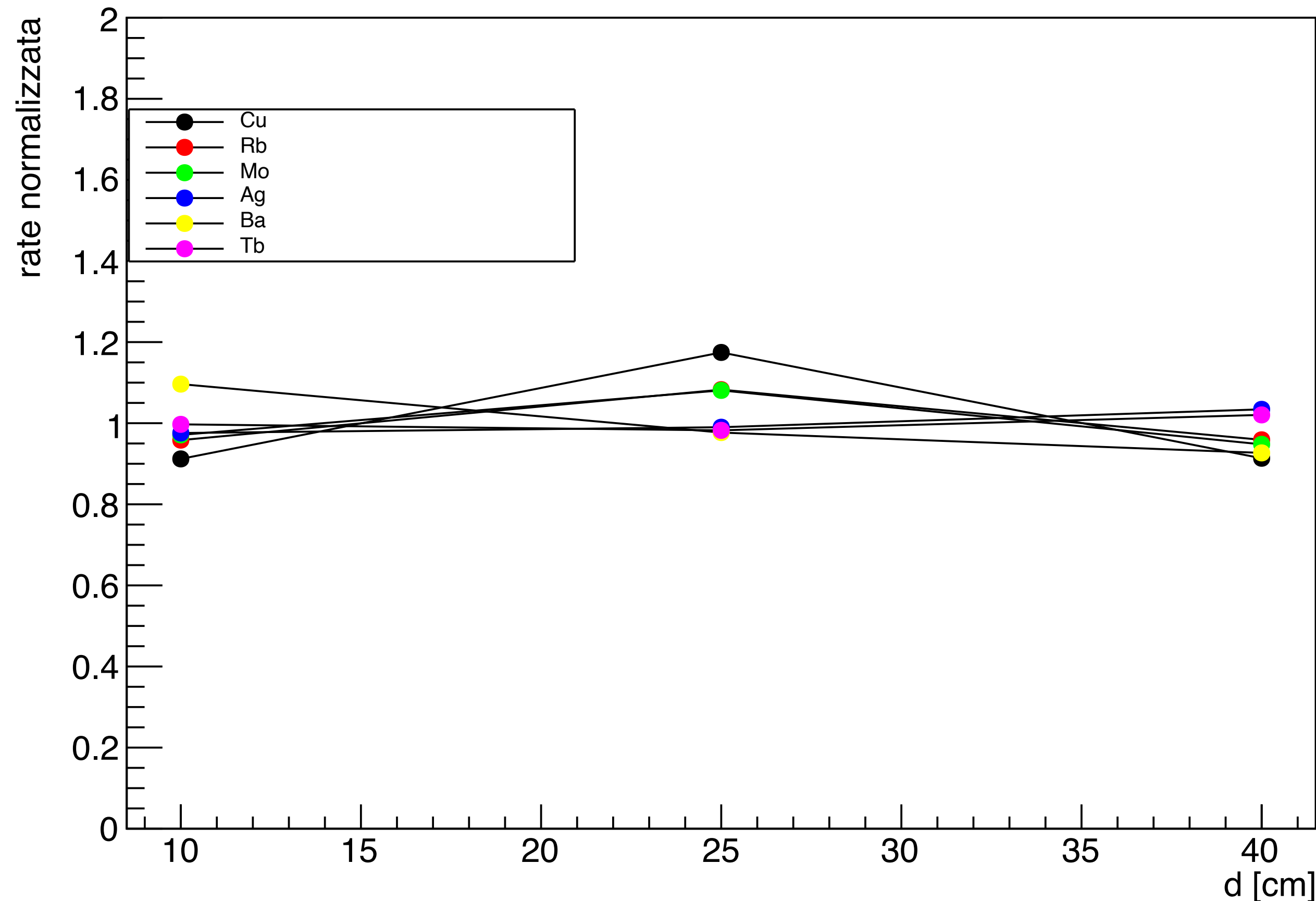
Different Trigger logics were tested with ^{55}Fe ; All of them seems to converge to the same rate of 1 kHz



We will choose underground on the basis of bkg condition

LIME under test

Rita tested the trigger rate behavior as a function of the position and energy of the source (Multi-energy X-ray and ^{55}Fe Z-scan and V_{GEM} -scan (**done**));



Already did the analysis (to be presented);

Main result is that trigger rate is practically flat on the whole LIME length for all energies

LIME under test

Next plans:

- tomorrow Francesco, Rita, Roberto will start the setup for automatised monitoring and we plan to make a stability test for 10/15 days;
- tests with ^{137}Cs not done for a “mechanical issue” (now solved). To be done.
- analysis of the large amount of data taken will require a lot of time and effort;
- it will be crucial to define tasks and interested people among the analysis work to start soon.
- INFN milestone

30/09/22: Sottomissione articolo su performance overground di LIME

INFN review

- We are in the middle of INFN review;
- first meeting with referees:
- ok about the work for 2021;
- plans for 2022 should be mainly focused LIME underground measurements:

- **Test underground:** realisation and installation of the different shield layers to study the background behavior and validate simulation results:
 - unshielded;
 - different copper layers (50 mm and 100 mm);
 - measurement of neutron flux;
 - installation of water tanks for completely shielded tests.

- Data acquisition;
- Data analysis;
- Simulation and comparison;