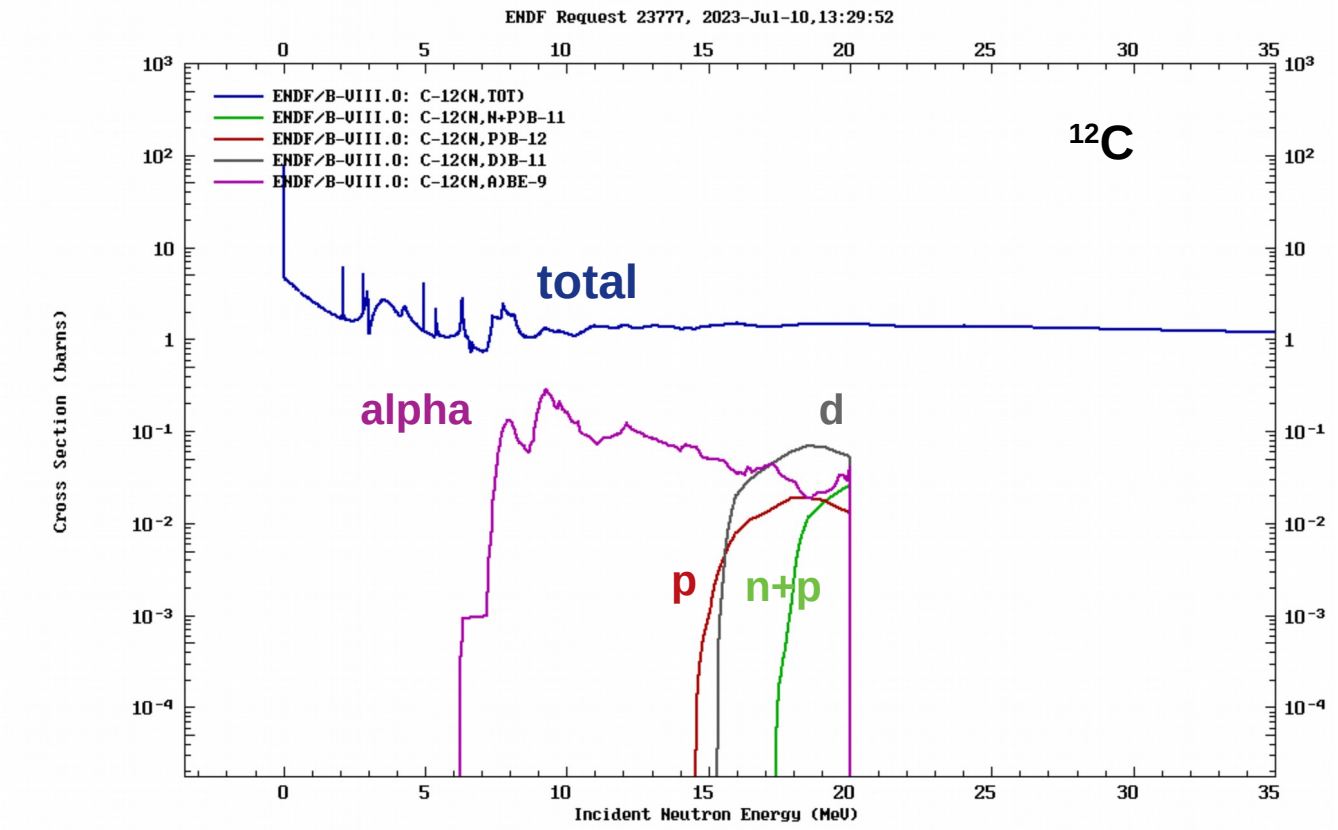
^{12}C(n,cp) preliminary analysis

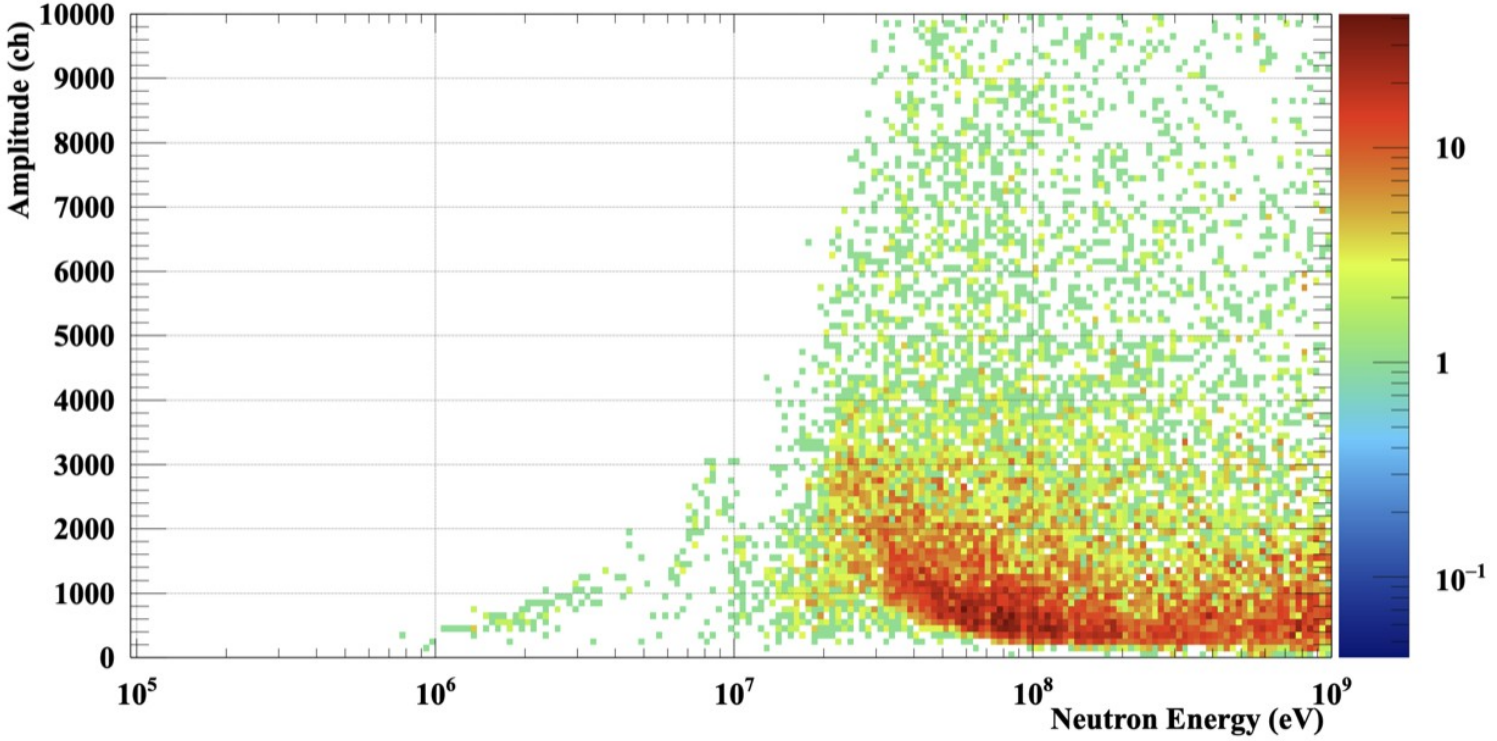
Reactions involved:



+ H(n,p) as background

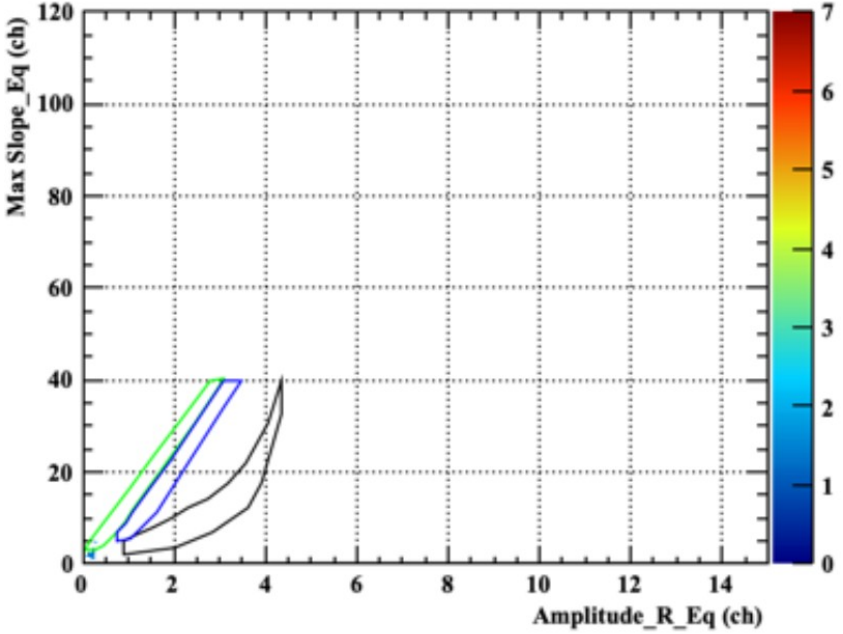
^{12}C(n,cp) preliminary analysis

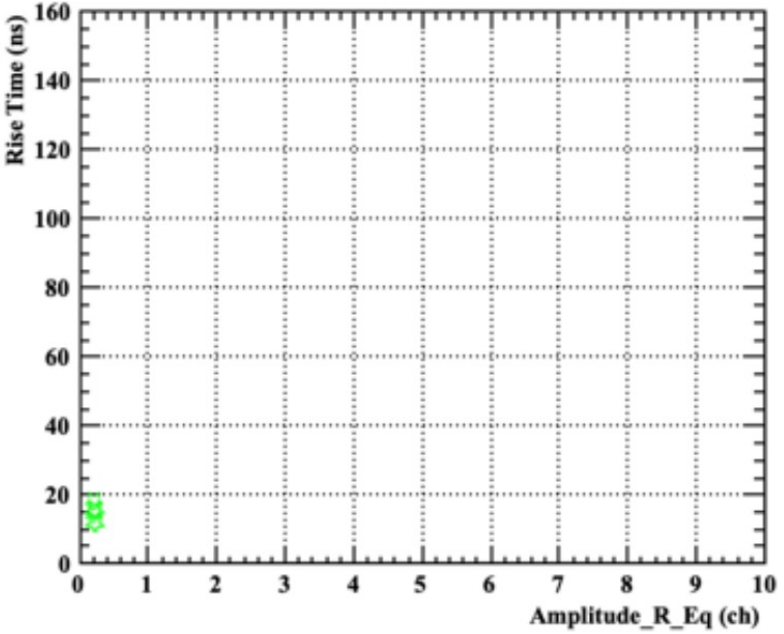
Response in energy is reasonable up to hundreds of MeV (tof to energy stil VERY preliminary)



^{12}C(n,cp) preliminary analysis

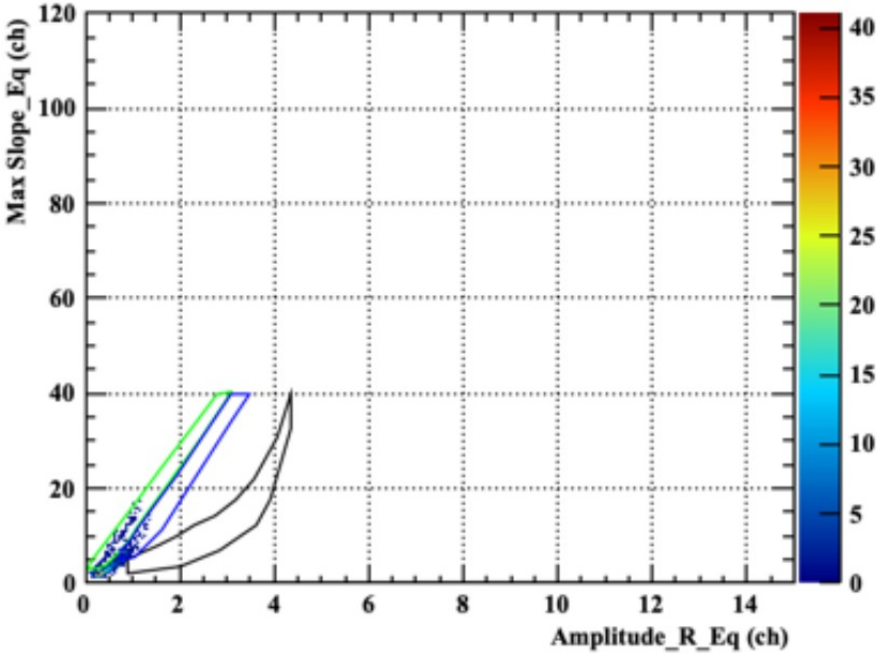
[0.5 ; 1.] MeV : empty (as expected)

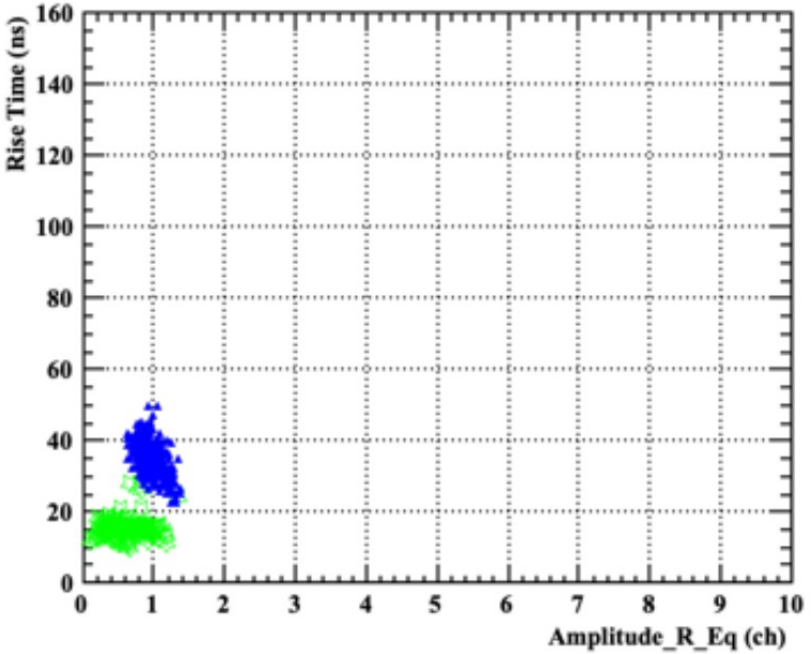




^{12}C(n,cp) preliminary analysis

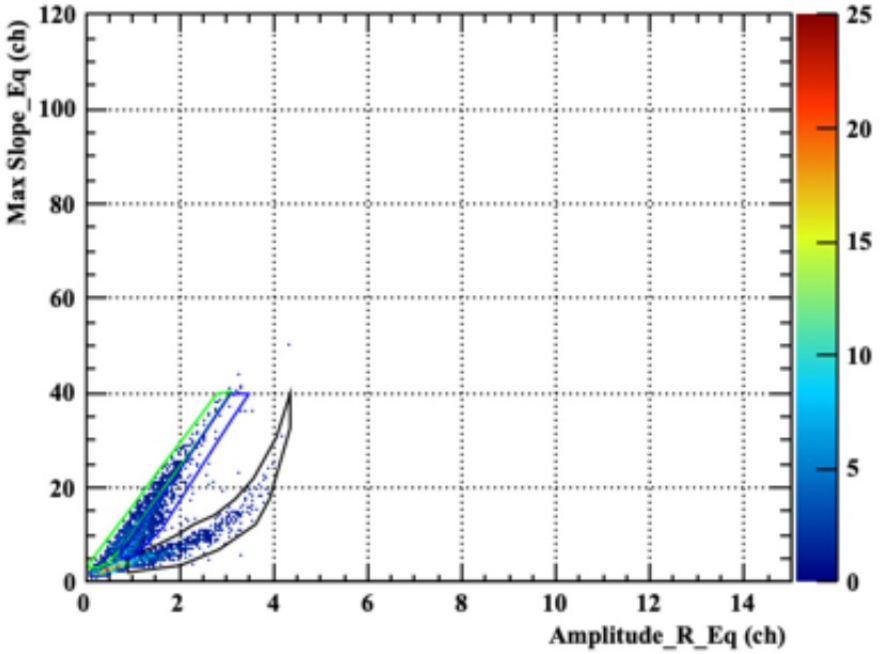
[1. ; 5.] MeV : protons from (n,p) on the entrance window (25um ok kapton)

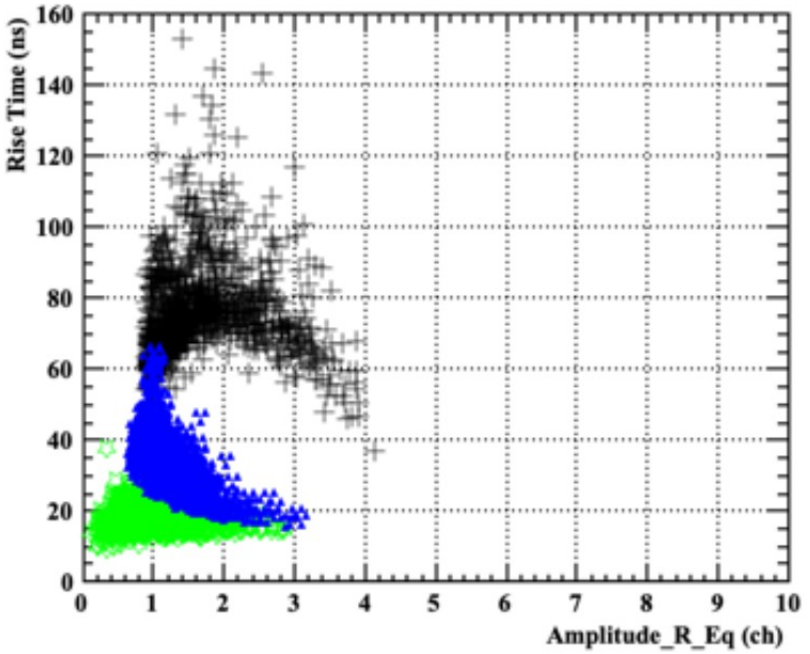




^{12}C(n,cp) preliminary analysis

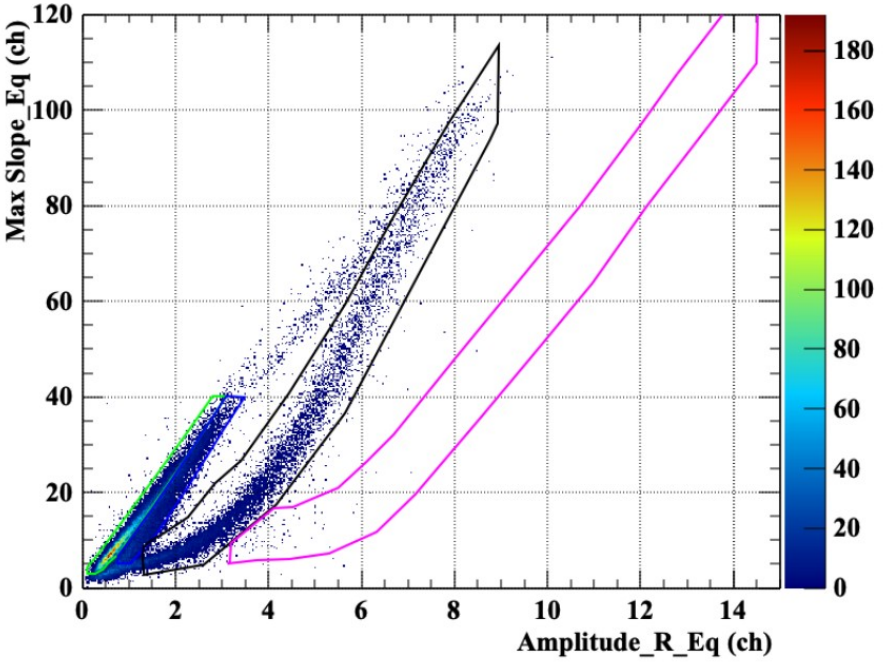
[5. ; 20.] MeV : alpha, protons and deuterons from ^{12}C – easy separation between alpha and H-isotopes, need to work more for p/d

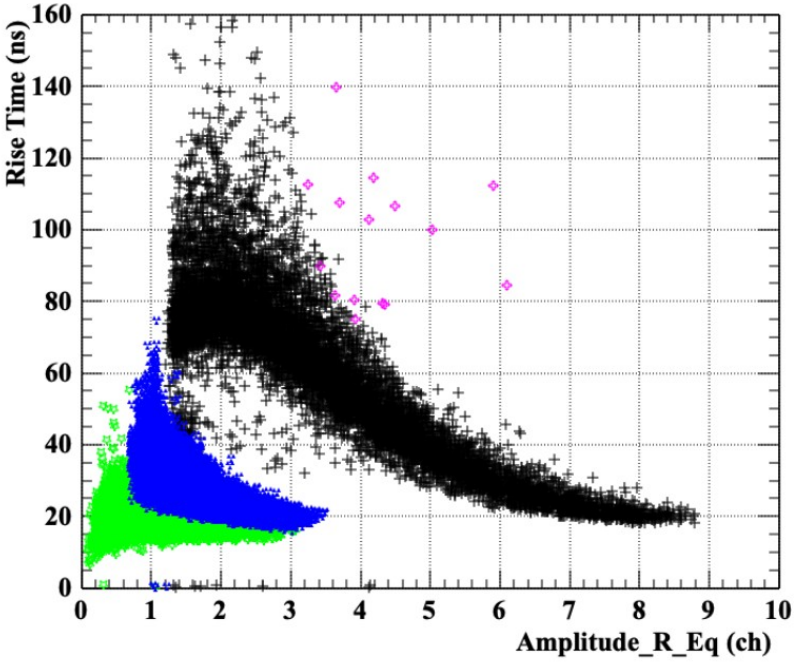




^{12}C(n,cp) preliminary analysis

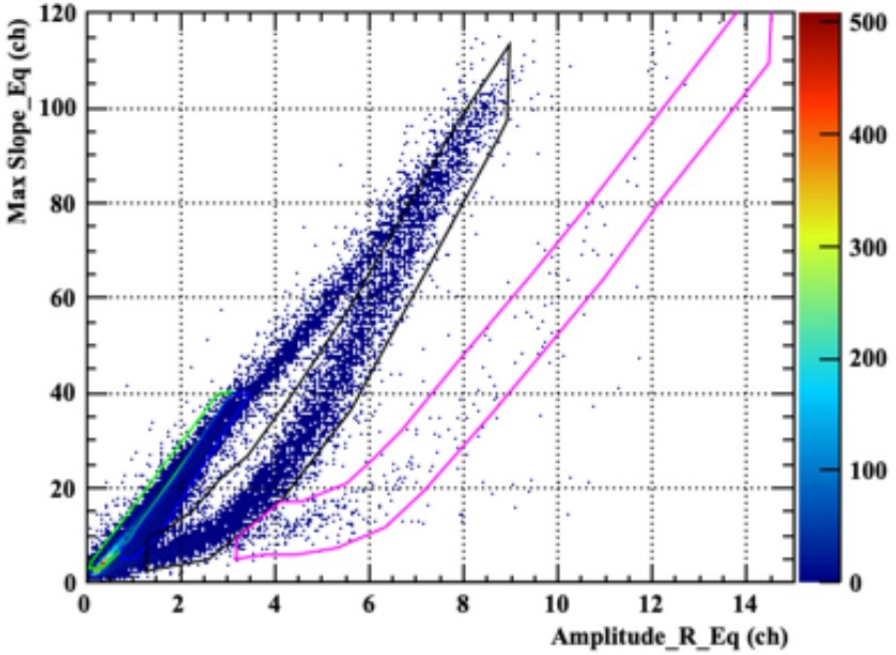
[20. ; 60.] MeV : detector still working perfectly may be some heavier nuclei (purple)

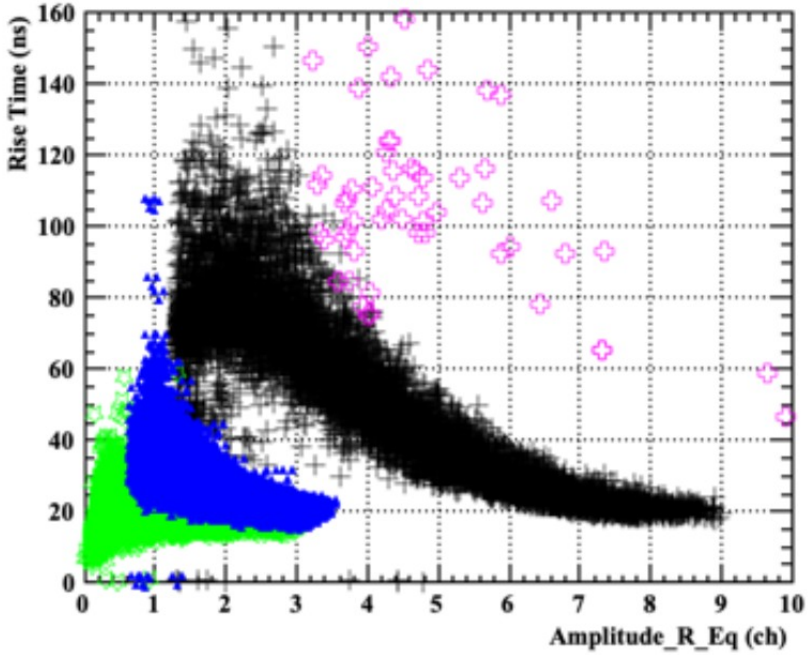




^{12}C(n,cp) preliminary analysis

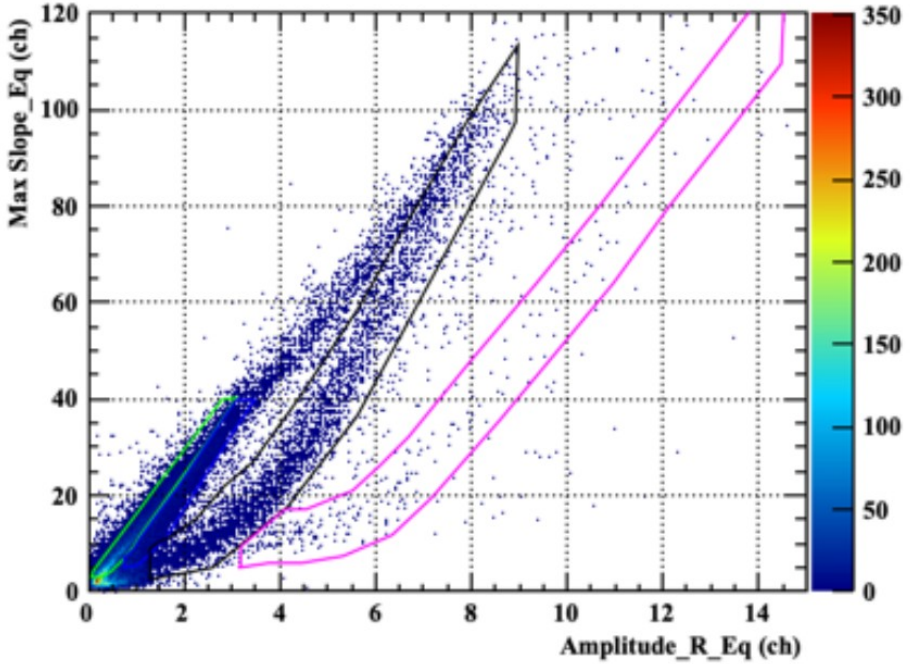
[60. ; 200.] MeV : detector still working perfectly purple region starts to be populated

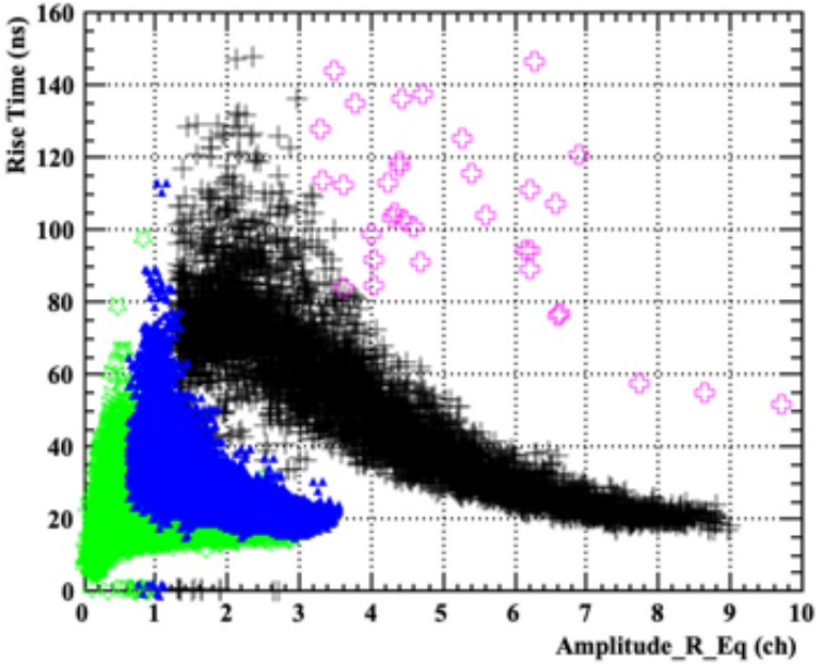




^{12}C(n,cp) preliminary analysis

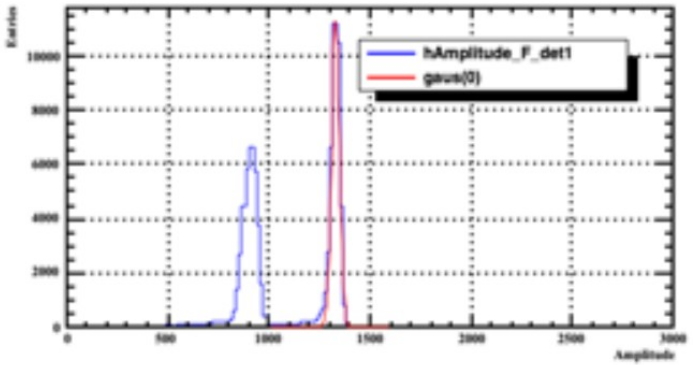
[200. ; 1000.] MeV : detector operative (at least) up to hundreds of MeV – strong contribution from particles not stopped in the silicon volume

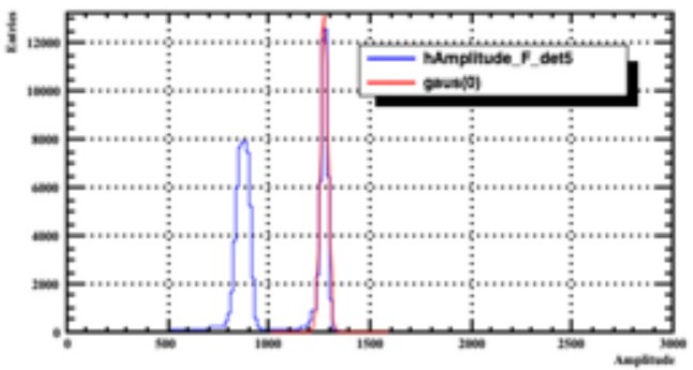


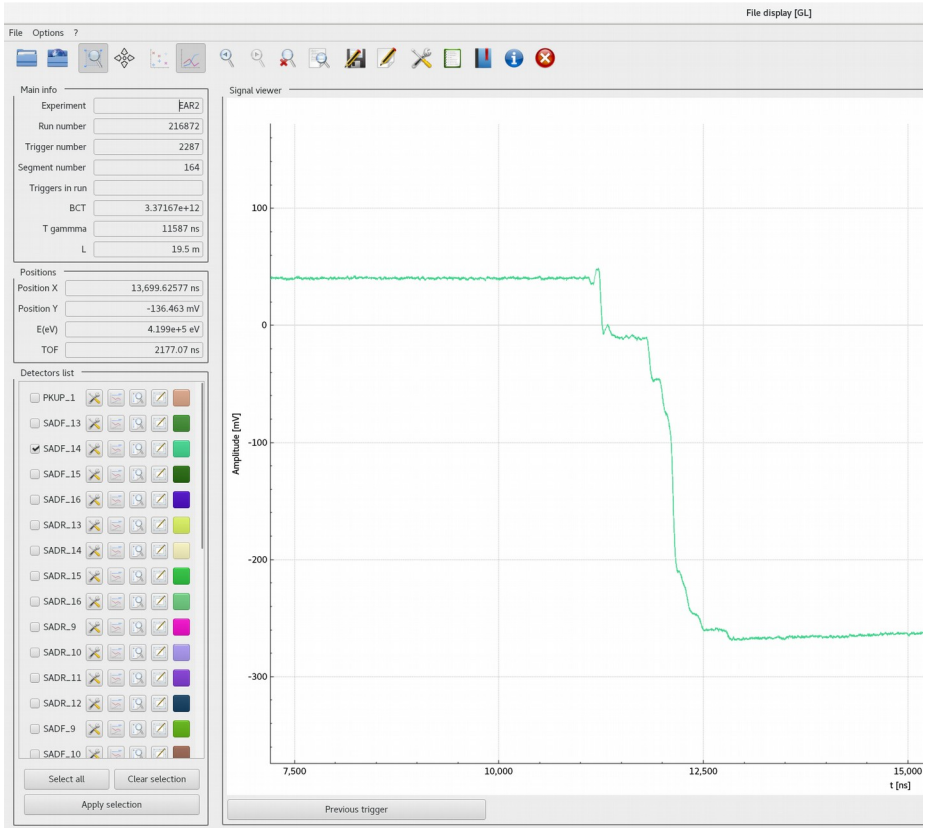


Annular in EAR2

^{6}LiF data: half a day of data with LiF, nice amplitude spectra, no saturation observed in gflash







^{12}C(n,cp) preliminary analysis

- Ringing removed (thanks to the intervention of Nino and Carmelo from LNS)
- Great response in energy
- Pulse Shape technique seems to be effective, at least for a/p, need more work for p/d (as expected)
- Nice spectra from EAR2 data, good response to the gflash
- Data taking at ILL concluded last Sunday, we collect data for better understanding the Pulse Shape and guide us in the analysis

^{12}C(n,cp) preliminary analysis

Protons from the window are the main source of background, need some MC simulation to correctly estimate its contribution.