

HPS Trigger Commissioning v1.1
3/20/2015
Valery Kubarovsky

As a first step we need to take data with beam on target using trigger commissioning setup (see spreadsheet below).

This trigger file is the default for a moment.

We need this data to check the trigger firmware only. The trigger tuning will be done later on with good quality beam.

It will be desirable to take data with different beam current:

10 nA, 50 nA, 100 nA, 150 nA. 1 million events is enough for each beam current.

So it will not take a lot of time.

HPS includes the following triggers:

1. Generator (randoms)
2. Cosmic
3. Single cluster 0
4. Single cluster 1
5. Pare clusters 0
6. Pare clusters 1

The parameters are in the attached file in a readable format.

The commissioning setup includes s0, s1, p0, and p1 triggers with different setting.

If DAQ is working the shift can take data with different currents without any additional support from our group. You can notify Nathan, Kyle and me if you will be in a position to investigate different trigger configurations.

2015 Trigger Commissioning Setup

GTP

Time Diff	8	ns
E seed	100	MeV

Singles 0 Singles 1

Emin	700	1200	MeV
E _{max}	8191	8191	MeV
Nhits	2	4	

Paires 0 Paires 1

Emin	100	300	MeV
E _{max}	2500	2200	MeV
Nhits	2	3	
Tdiff	20	16	ns
E _{sum,min}	400	1200	MeV
E _{sum,max}	2400	2300	MeV
E _{diff,max}	1800	1300	MeV
Compl	70	40	Degrees
Slope	4.5	5.5	MeV/cm
E*R	100	300	Mev*cm