



Offline Data analysis of the Electromagnetic calorimeter trigger system in Belle II experiment

2020.07.31

Hanyang Univ.

HanEol Cho



Belle II Level-1 trigger

- to select physics oriented events and to suppress beam background events

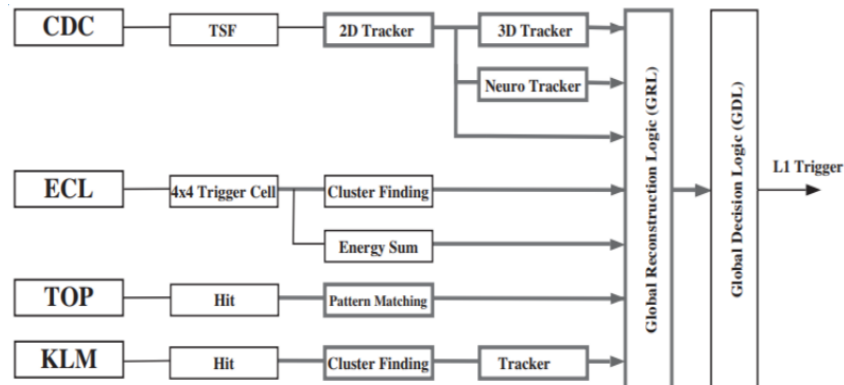
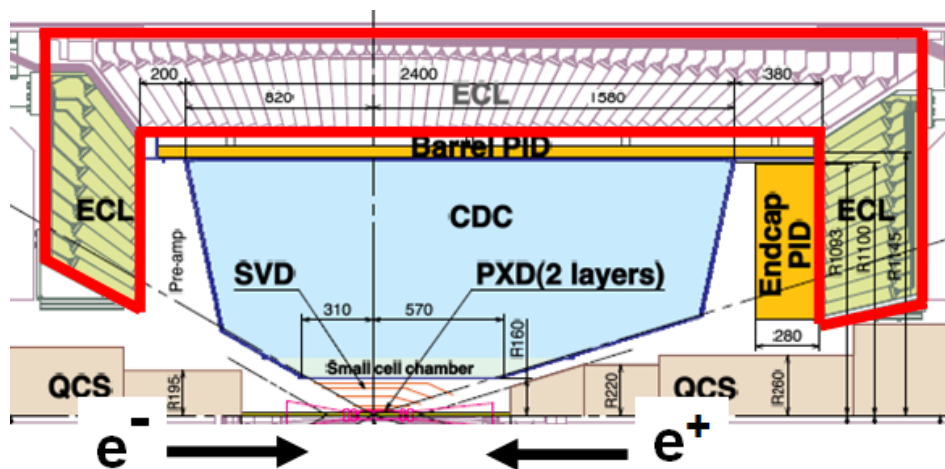
- **ECL energy trigger : Etot, ICN**
- CDC track trigger : 2D, 3D, Neuro-3D
- TOP precise timing trigger
- KLM muon trigger
- GRL track/cluster/hit matching
- GDL Level-1 trigger decision

- **Electromagnetic CaLorimeter (ECL)**

- 8736 CsI(Tl) crystals in total
- Precise e/g energy measurement
- ECL trigger signal generation

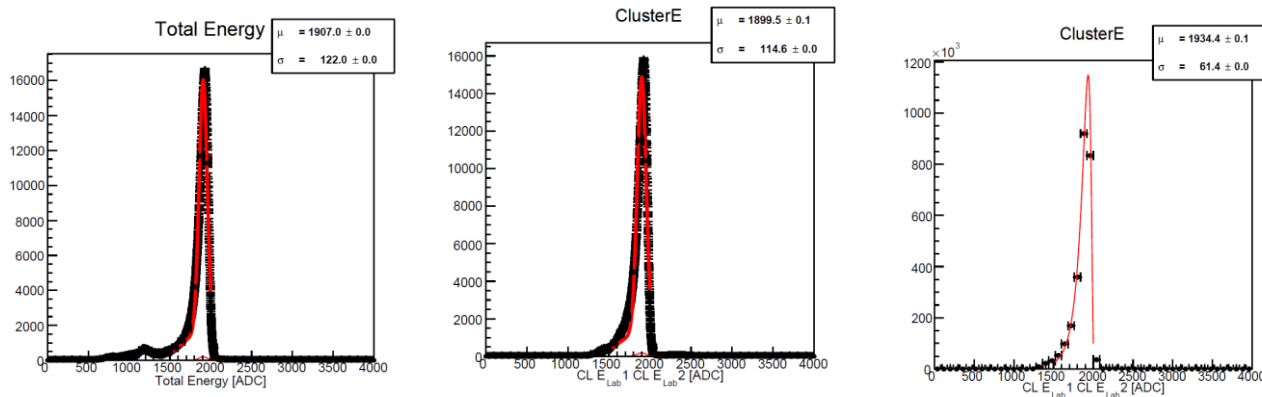
- **ECL trigger**

- Based on 576 Trigger Cells (TC)
 - Total Energy trigger
 - Cluster Counting trigger
 - Bhabha trigger
 - Event timing
 - Low multiplicity trigger
 - mm trigger



ECLTRG QAM module

- The QAM is an acronym of Quality Assurance Monitoring.
- ECLTRG QAM module checks ECLTRG system run by run.
 - This slide includes bhabha skimmed data of exp10 phase3.



- Total Energy should be stable at least **bhabha and $\gamma\gamma$**
- Cluster Energy sum will be similar with Total Energy.

Category	plots
Energy	TC total energy
	Cluster energy
Timing	caltime
TC	Problem TC check

