Proposta di quattro (+2) possibili Belle II Note ECL

La Lista

1. **Performance study of CsI(Tl) and pure CsI crystals with cosmic rays**
2. **Impact of machine background on CsI(Tl) and pure CsI crystals**
3. **Large Area APD gain**
4. **Comparison of options for the Belle II forward calorimeter upgrade**
5. **Sulla matrice (“Investigating pure CsI crystal option for Belle II electromagnetic calorimeter upgrade”)**
6. **Test di radiation hardness**

Non commenterò sugli outline delle ultime due note

Performance study of CsI(Tl) and pure CsI crystals with cosmic rays

- Introduction and motivation
- Experimental setup
- Relevant variables and analysis techniques
- Results for CsI(Tl)
  - Npe
  - ENE
  - Energy resolution
- Results for CsI
  - Npe
  - ENE
  - Energy resolution
- Summary and conclusions

Impact of machine background on CsI(Tl) and pure CsI crystals

- Introduction and motivation
- Estimate of machine backgrounds in the ECL forward endcap
- Methods for background simulation
  - Background mixing in cosmic ray events
  - Toy Monte Carlo
- Radioactive source
- Results for CsI(Tl)
  - ENE
  - Energy resolution
- Results for CsI
  - ENE
  - Energy resolution
- Summary and conclusions

Large Area APD gain

- Introduction and motivation
- Gain and excess noise factor measurements for LAAPD using CsI(Tl) crystals
  - LAAPD gain measurement
  - The transconductance preamplifier
  - Excess noise factor measurement
- Conclusions

Comparison of options for the Belle II forward calorimeter upgrade

- Introduction and motivation
- Energy resolution of the existing Belle II calorimeter
  - No background
  - Resolution with machine background
- Energy resolution of a pure CsI crystal calorimeter with APD readout
  - No background
  - Resolution with machine background
- The Belle calorimeter CsI(Tl) crystals with additional APD readout
- Adding a wavelength shifter and optical filter to pure CsI crystals
- Summary