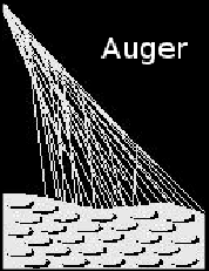


ToTd and MoPS

D. Nitz

for the ToTd/MoPS team

(P. Billoir, P. Ghia, R. Sato, D. Nitz)



Proposal to Install the ToTd Trigger in the Full Auger Surface Array

P. Billoir, P. Ghia, D. Nitz, R. Sato

November 9, 2011

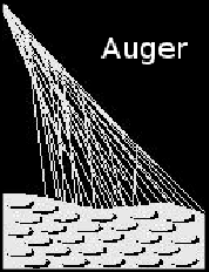
Abstract

The time-over-threshold-de-convolved trigger (ToTd) is designed to lower the surface array trigger threshold of reconstructable events; reduce the composition dependence of the trigger at low energies; and improve the photon and neutrino trigger sensitivity. The trigger has undergone substantial testing in the SD test hexagon and later the infill area. It is important to note that the ToTd trigger operates in addition to the current SD level 1 triggers. The current SD triggers would continue without modification. Analysis of the infill data confirms that the goals of the trigger are met. At this time it is appropriate to consider at what time and under what conditions the ToTd trigger should be extended to the full SD array.



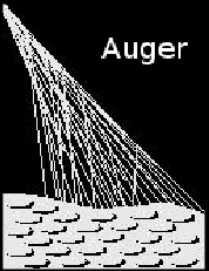
Conclusions

The ToTd trigger has been exercised in a significant number of stations in the infill area. Lowering of the energy threshold of the array has been at least qualitatively demonstrated. Rate issues with the Leeds Comms system have been observed in the infill (as they have during HEAT operation), but are not expected in the standard array due to the much lower T3 trigger rate there. Other adverse effects on the performance of the stations were not observed. Access to each individual T2 trigger rate via the Auger monitoring system would be beneficial. In light of the positive performance of the ToTd trigger, we request consideration of at what time and under what conditions the ToTd trigger should be extended to the full SD array.



For more information see following presentations

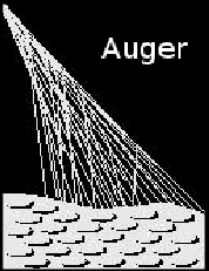
- Neutrinos and ToTd Trigger, Mathieu Tartare, Monday evening
- ToTd and MoPs Studies in Test Hexagons and the Infill Array, Pierre Billoir, Thursday morning
- Study of Lost Events in the Infill, Diego Ravignani, Thursday morning
- Proposal to Install the ToTd Trigger in the Full Auger Surface Array, P. Billoir, P. Ghia, D. Nitz, R. Sato, Technical Board, Thursday evening



Trigger Review Committee

To review ToTd (and later MoPS)

- Proposed Members:
 - Carla Bonifazi (chair),
 - Olivier Deligny, Lorenzo Perrone, Ioana Maris, Patrick Allison
- Report to TB (and CB):
 - Final report due March, 2012 meeting



Planned Requests for TB

- ToTd
 - Operate ToTd in one BSU sector of the standard array while Review Committee/TB/CB process continues
- MoPs
 - Continue operation in the test array until March 2012 to investigate some issues