Muon identification
Energy and time correlations

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Topics

- Muon identification
- Energy and time correlation

Muon identification

- Which detectors can be used:
  - muSc
  - muScA (is anti-coincidence done at hardware level?)
  - active target: SiR2 (called SiR in earlier runs, should unify), SiR1
  - ScVe (muon veto)
  - Ge-S/F - normalization
- Muon signals:
  - incoming: (muSc above threshold) AND (NOT muScA)
  - punch-through: (incoming) AND (ScVe)
  - stopped: (incoming) AND (NOT ScVe)
  - stopped with an active target: (incoming) AND (target) AND (NOT ScVe)

Muon identification

- Status: use only muSc hit
- Need to check:
  - stopped with active target vs Ge-S X-ray
  - incoming vs stopped: effect of ScVe
- Criteria for which signal should be used for muon event construction?
  - make muon object from muSc hit,
  - keep necessary hits: muScA, ..., decide later

Energy and time correlations

- Status: use only muSc, slow Si hits with some timing requirements
- Points to check:
    - fast/slow pulse pair-up:
        - is it useful? for which detector?
        - correlation in time stamps of a fast/slow pair
        - E-E correlations of fast/slow pairs, how to determine E in fast pulse
        - inefficiency, what to do when fast pulse can not be found?
    - how to decide timing for slow pulse?

Energy and timing correlations

- Timing correlations between detectors:
  - how to choose coincidence window?
  - which coincidences are needed: check PK and MM's talks
    - muon identification
    - heavy charged particles:
      - thin AND thick; AND active target, if any
      - are ScL, ScR needed?