Update meeting BEAST

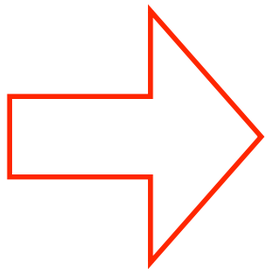
- Presentata (di nuovo) la schedula
- Dopo la mia presentazione c'e' stata un po' di discussione sul modo di acquisire i cristalli
  - Segnale di iniezione a disposizione
    - Scaler?
- Followup in corso via e-mail con Alex e Chris proprio su come cosa acquisire (neanche loro hanno le idee completamente chiare)

Proposed Phase 1 Schedule – OK? (green = recently changed)

- May/June TPC DD-generator test at LBNL (may move)
- June ??? ship BEAST support structure to KEK
- June ??? ship phase 1 cables to KEK (or handcarry to B2GM)
- June 15 Michael Hedges moves to KEK
- June 18-19 BGM, KEK, Japan
- June 20-21 BEAST MiniWorkshop, KEK, Japan
- June 22-26 B2GM, KEK, Japan
- June 27-July 3 install support structure, cables, fibers, and gas lines
- July qualify KEK TPC gas vendor
- August 17-29 install sensors + get DAQ running
- Sep -- ? Concrete shield work in Tsukuba Hall
- Fall (tbd) Install any late detectors
- January ’16 Ready for beams (expected ~Feb)

Questa è ora approvata e definitiva

Cosa vogliamo misurare?



9.4.4 Dead time during injection

SuperKEKB will operate with continuous injection (Ch. 2). For a brief interval after each injection pulse, the beam is excited and produces more background in the detector. Belle's DAQ copes with this by blocking triggers for about 4 ms after an injection pulse. However, at a 100-Hz injection in SuperKEKB, such a veto time would correspond to 40% dead time. To reduce this, the following veto scheme is proposed. The DAQ is blocked for $4\,\mathrm{ms} \pm 0.5\,\mu\mathrm{s}$ *for the injected bunch only,* as it is the most copious source of background. For the other bunches, the DAQ is blocked for a much shorter time of about 150 μs.
We have studied the feasibility of this scheme in Belle using a special run without the injection veto. A signal from the backward end-cap calorimeter was used to study the energy deposition during injection.

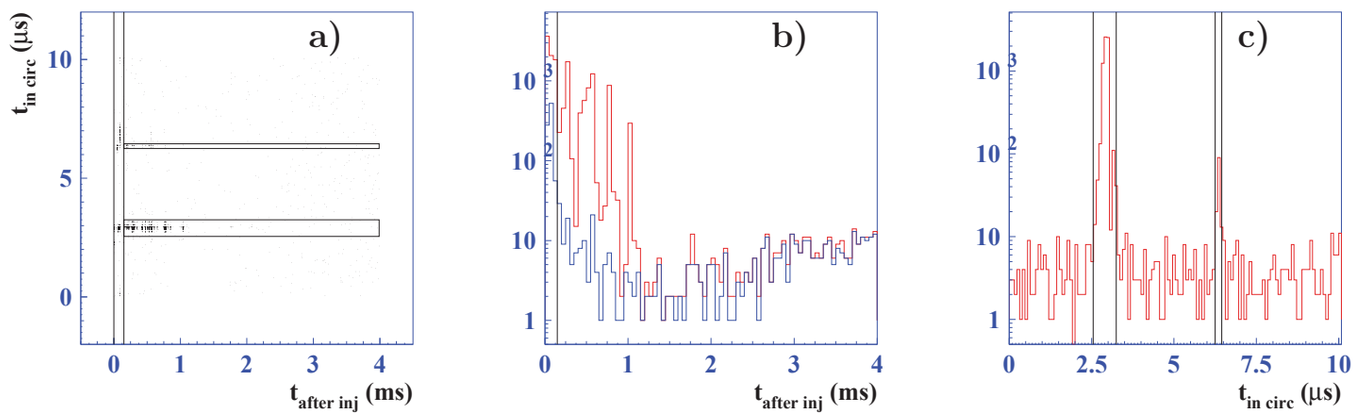


Figure 9.11: Trigger time distributions for LER injection. a) Scatter plot of time within a revolution period vs. time after injection. b) Time-after-injection distribution (red: all events; blue: excluding the two horizontal bands in (a)). c) Time-in-revolution distribution for $t_{\mathrm{after\ inj}} <$ 150 μs.

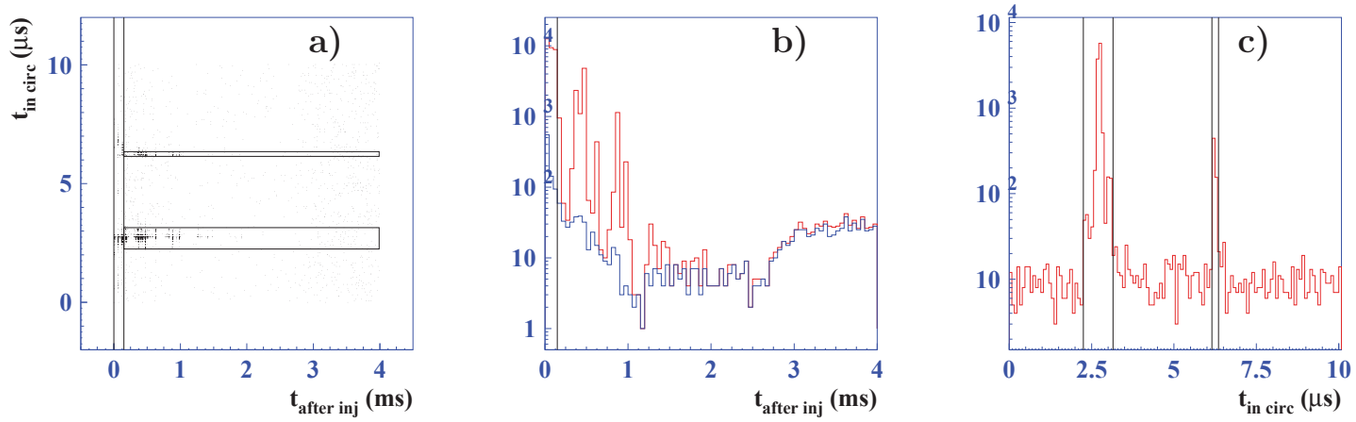


Figure 9.12: Trigger time distributions for HER injection. a) Scatter plot of time within a revolution period vs. time after injection. b) Time-after-injection distribution (red: all events; blue: excluding the two horizontal bands in (a)). c) Time-in-revolution distribution for $t_{\mathrm{after\ inj}} <$ 150 μs.

Figures 9.11 and 9.12 show the distributions of the trigger time within one revolution period

Discussione DAQ

- Acquisire il segnale dell'iniezione in uno dei canali del 1730
- Sincronizzare i due 1730 e mandatorio!
- Utilizzare il DPP CAEN per registrare tutti gli hit
- Leggere ogni n ms
- In questo schema, lo scaler risulterebbe superfluo
  - Notevole semplificazione del tutto
  - Vorrei comunque testare back-to-back scaler vs 1730 w/DPP per dire l'ultima parola