Résumés des réunions de collaboration et electron working group

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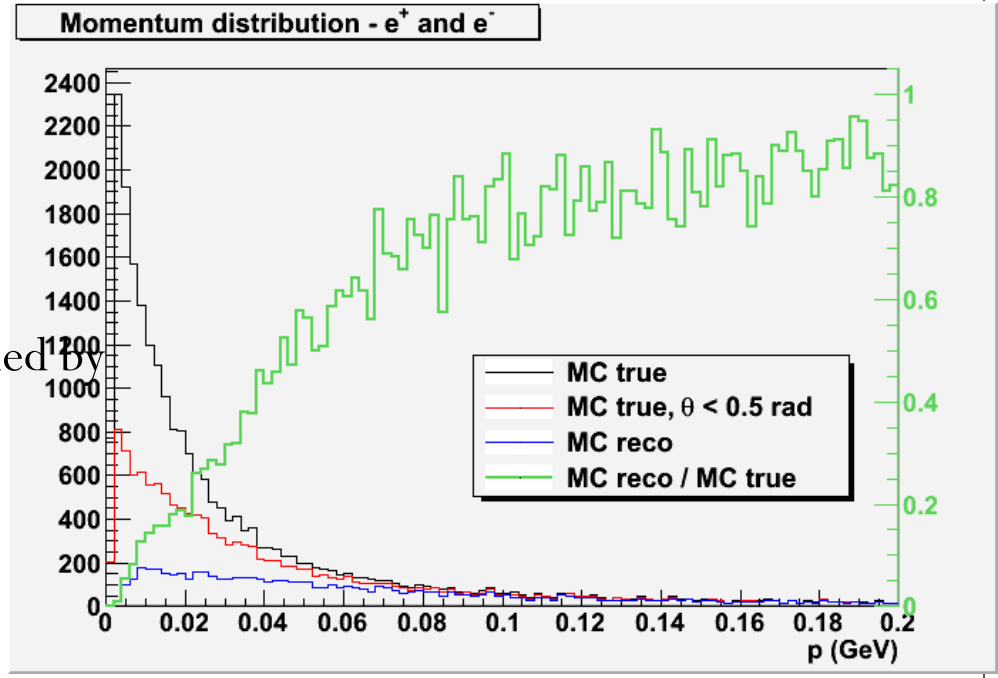
Sommaire

- Réunion de collaboration du 09/03/2011
- Réunion electron working group du 22/03/2011

Réunion de collaboration du 22/03/11
Shower detection by CS

- CS has high detection efficiency for electron shower tracks.
  - Major contribution < 100MeV
  - Cut off energy ~ 30MeV
    - (~200 MeV/c in ECC)
- An attempt for CS shower "warning" is studied by Fabio.
  - Based on position cut
    1. Find CS track pair (dpos < 2665m)
    2. Grouping pairs (mean(dpos) < 4500μm)
    3. Cluster with Ntrk >=3 satisfy as a cluster
  - ~25% of NC events are selected
  - All ne candidates found in EU are in this criteria.
- How much is real?
- Sub-sample of "Fabio's list" is analyzed for Bern events → next slide.
- Another study. See Kitakawa's talk.



In Bern Sub sample :
1ry e or γ are found
for 80% of NC events « warned » by Fabio
(12/16 events)

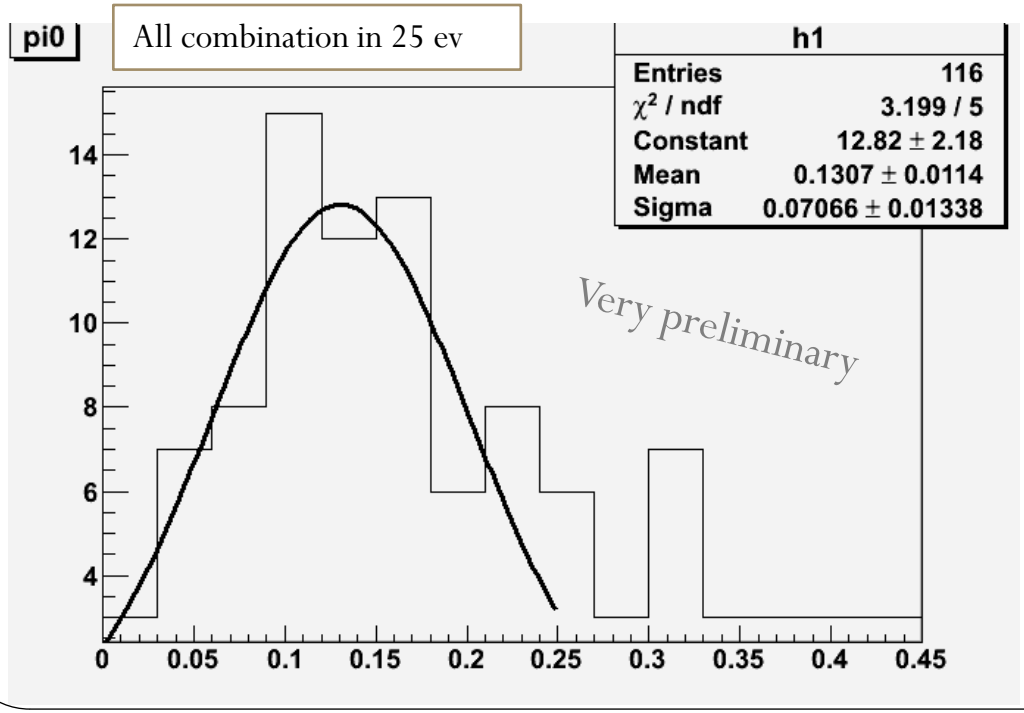
Tomoko Ariga

Réunion de collaboration du 22/03/11 π^0 mass reconstruction

- γ search
  - Volume: 10 ~ 20 plates
  - Selection: IP < 250 μm & Nseg>=3 (track efficiency is 85-90 % for 500 MeV)

Checked events	Number of γ (after manual check)	Number of events with γ >= 2
129	183	53

Study on detection efficiency (comparison with MC) will be next step.



Energy was estimated by the F&F algorithm. If not reconstructed by the algorithm, MCS method was used.

Distribution of background combination is to be estimated and to used for the fitting (next step).

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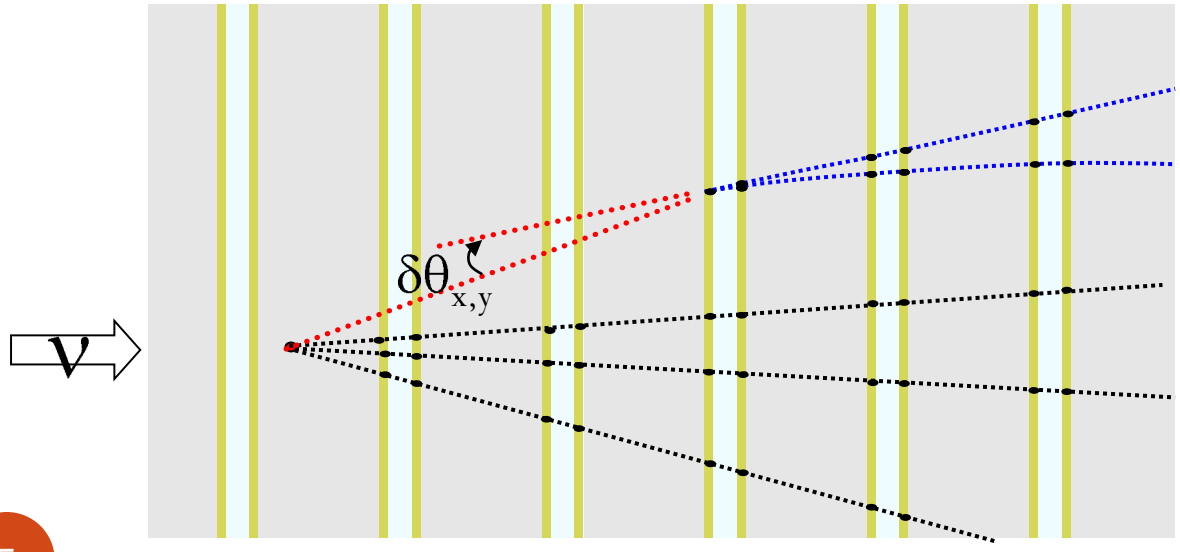
Result of eye checking of selected tracks

Random sampling OPERA neutrino interaction 30event(CC22 NC8)

	Track/30event	Track/event
Selected tracks	123	4.1
primary track (with holes)	47 (~38%)	1.6
Cosmic Ray	7 (~6%)	0.2
Fake track	37 (~30%)	1.2
e+e- candidate track	32(30γ)(~26%)	1.1



Result of Gamma hunting 30 evt

1.0+-0.2gamma/event

MC : same conditions ?

0.9gamma/event (MC)

Pointing accuracy study :

On going

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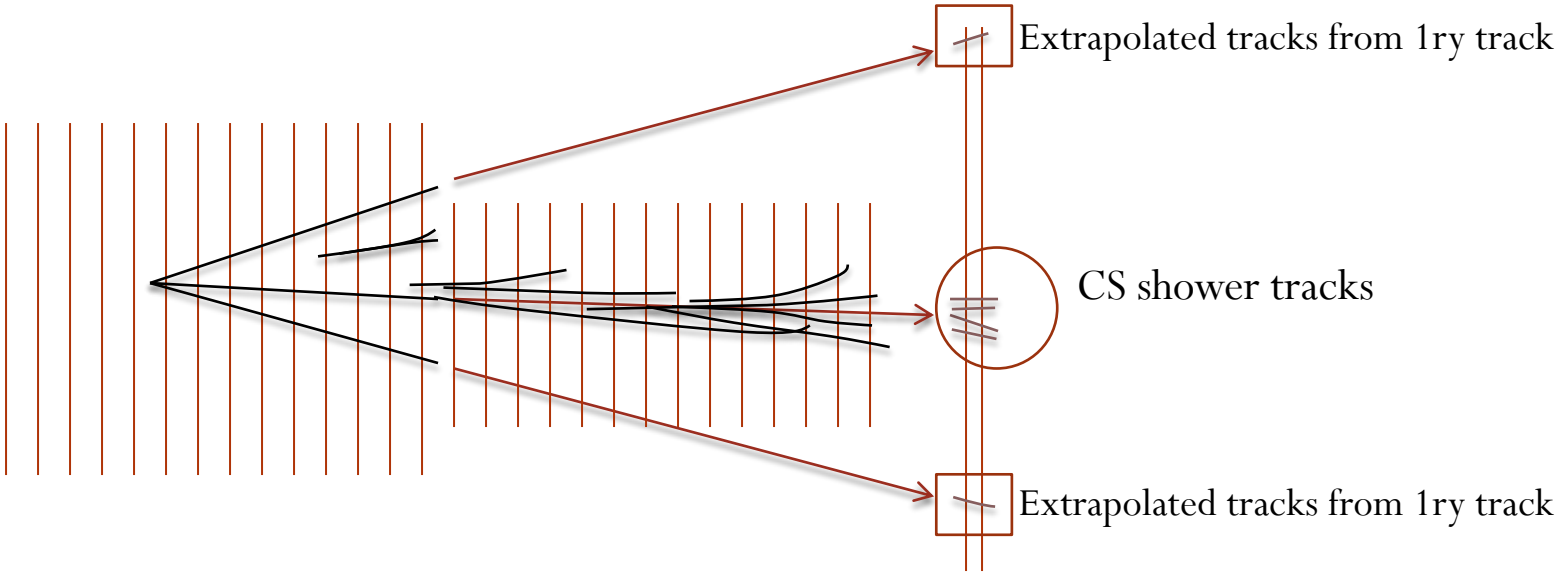
Study on vertex localization of τ→e DIS and QE

Criteria :
At least 1 CS track is connected to ECC
SB is ok ?
Stopping point : Plate number < 55

- *tau→e DIS : 1000 events have been analysed.*
  - *Location efficiency: 0.526*
- *tau→e QE : 1000 events have been analysed.*
  - *Location efficiency: 0.364*

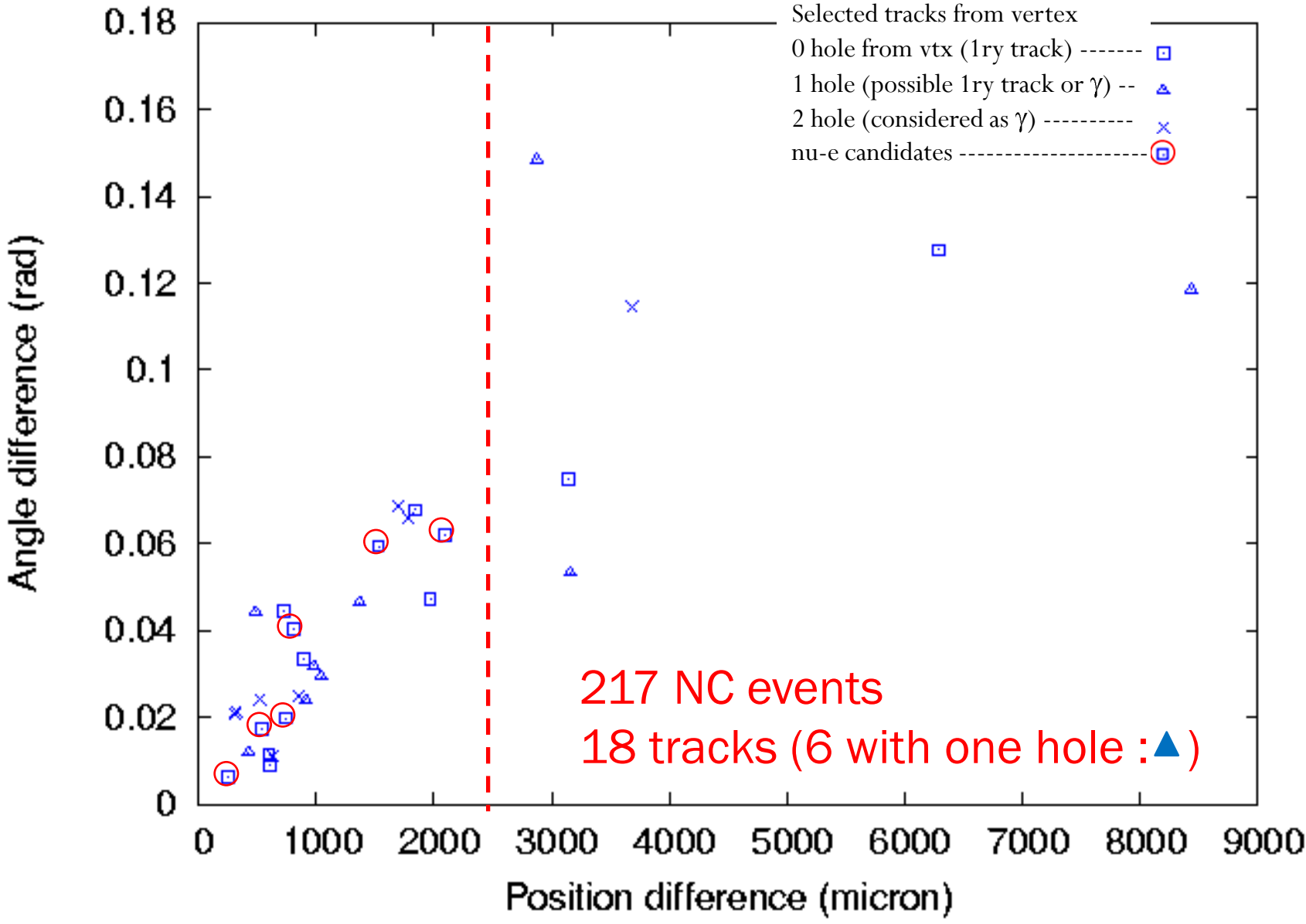
- *NC : 1000 events have been analysed.*
  - *Location efficiency: 0.398*
- *CC : 1000 events have been analysed.*
  - *Location efficiency: 0.620*

Réunion EWG du 22/03/11 :



NOBUKO: r<2mm, dθ<0.15rad & >4 neighbour tracks
CARLO : r< 5mm and δθ<0.25rad & >4 neighbour tracks

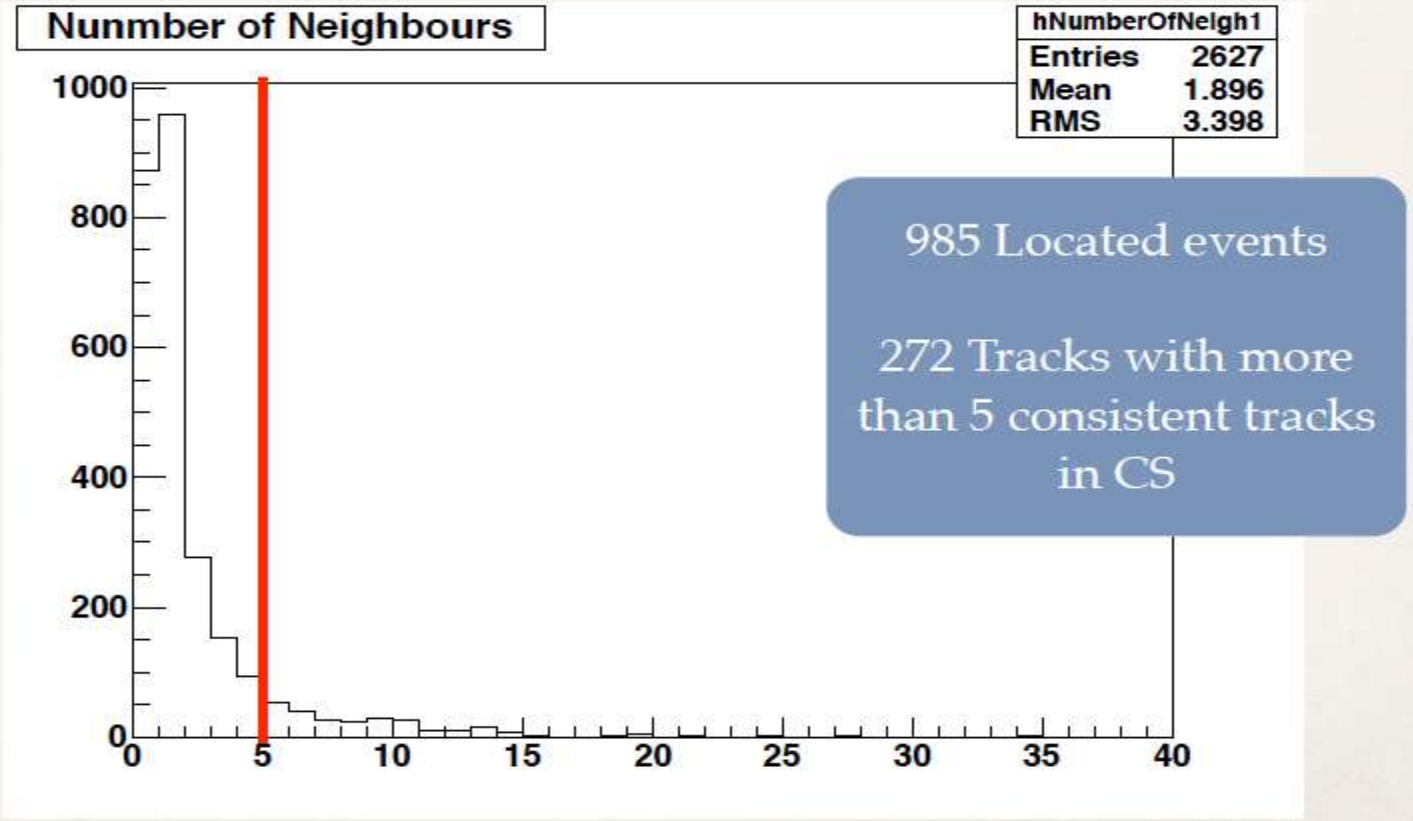
Réunion EWG du 22/03/11 : Relation between CS shower and 1ry trk



Carlo Mancini

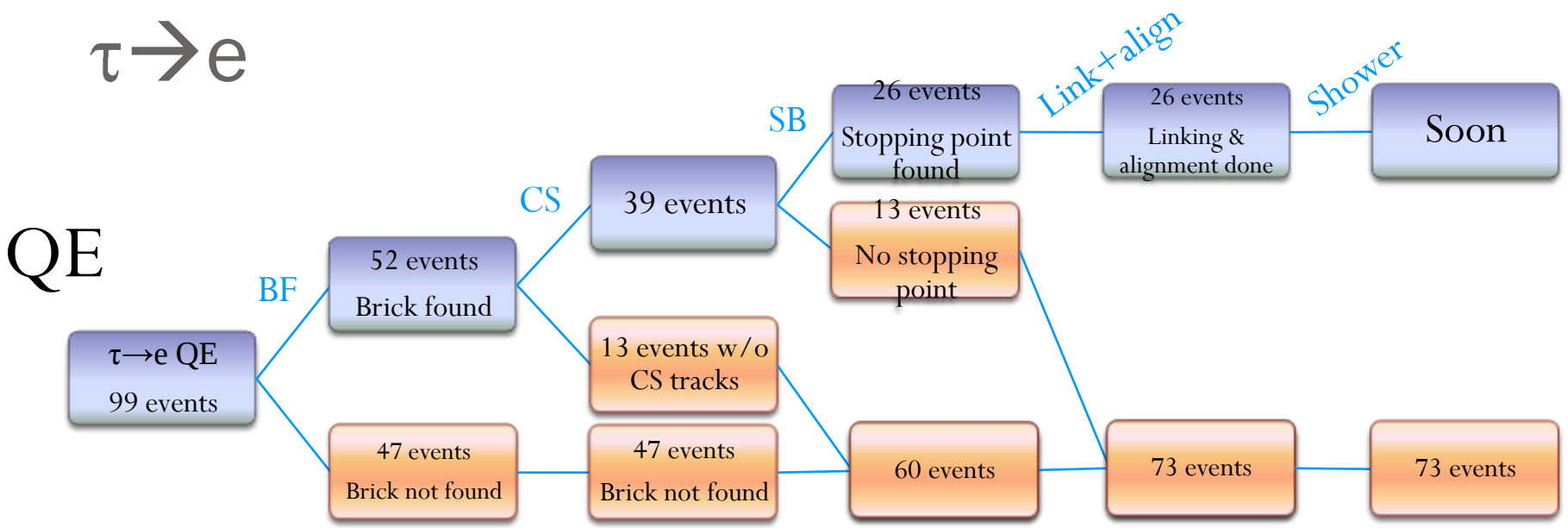
Relation between CS shower and 1ry trk

	Cuts	Selected ratio
JP NC	r<2mm, δθ<0.15rad	18/217 = 8%
EU NC+CC	r<5mm, δθ<0.25rad	272/985 = 28%
EU NC+CC	r<2mm, δθ<0.15rad	98/985 = 10%



Réunion EWG du 22/03/11

τ→e



Each process is being checked carefully.