Status Report

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Vertex Predictions

- We have finished and send vertex predictions for 51 out of 58 events with good quality m-files.

- We are working on the remaining 7 events. These are quite “difficult” events due to large showers in interactions mainly in the first emulsion module.

Event Location

- We have send **9 candidate vertices** out of which 3 were found to be true vertices and 3 fake.

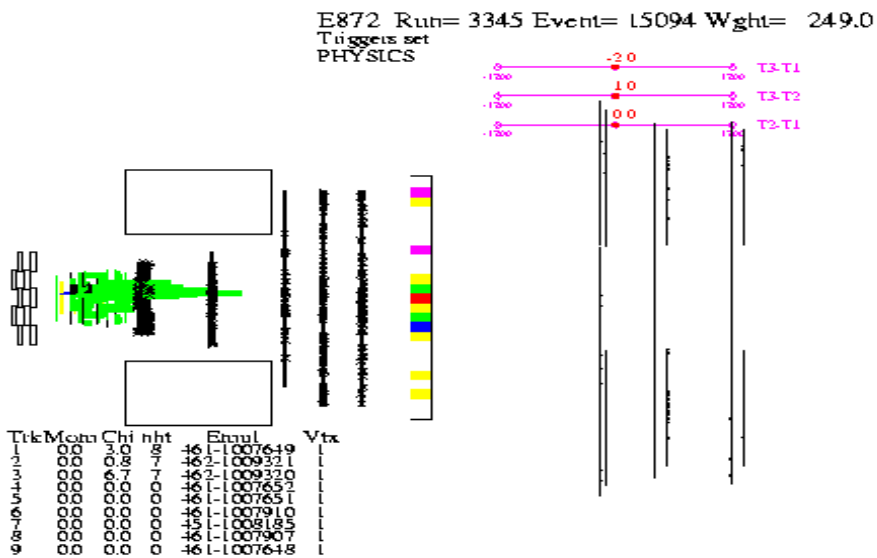
- 3 are characterized as **“fake”** due to the fact that “primary vertex tracks” appear **upstream connected.**

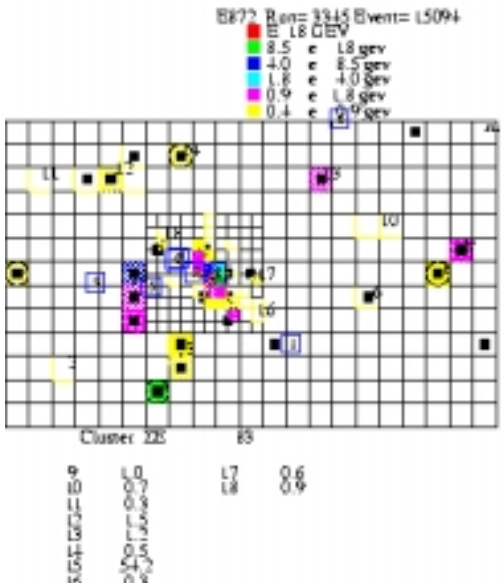
- However **Nonaka** must be using **slightly different m-files** that the ones we use!? (From what I understood from his e_mail to Bruce).

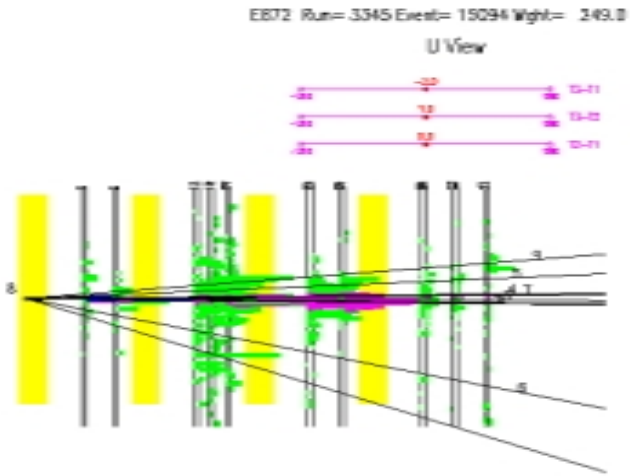
- Furthermore our cuts (35 mrad and 15 microns) are much more loose than Bruce’s cuts so we are investigating in order to understand what is going wrong…

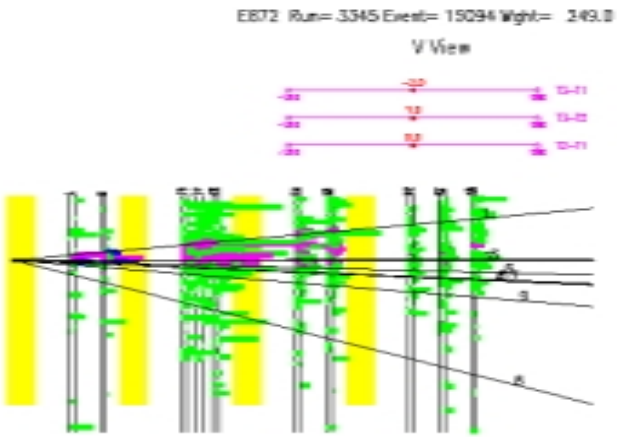
- One of the events we send is **interesting** since there are **two high-multiplicity vertices** that could be interpreted as “primary” and “secondary” vertex. Therefore we present some details one this event.

Event 3345_15094



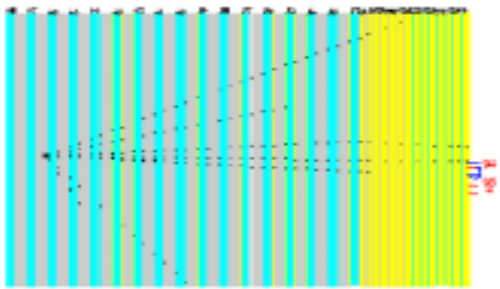


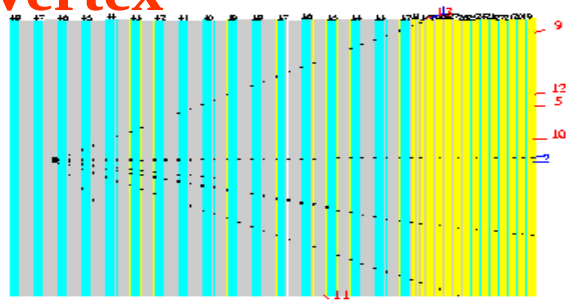


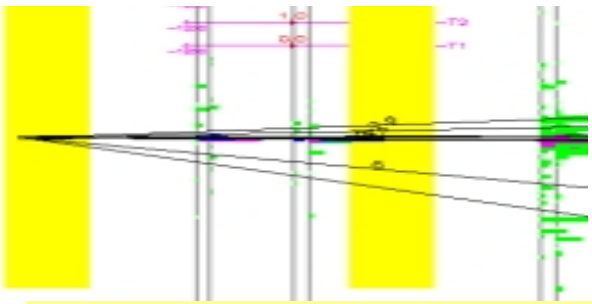


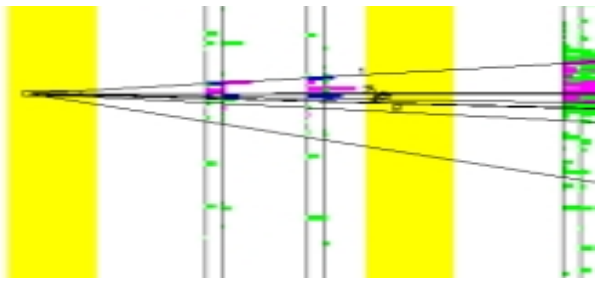
Event 3345_15094

“Primary” vertex









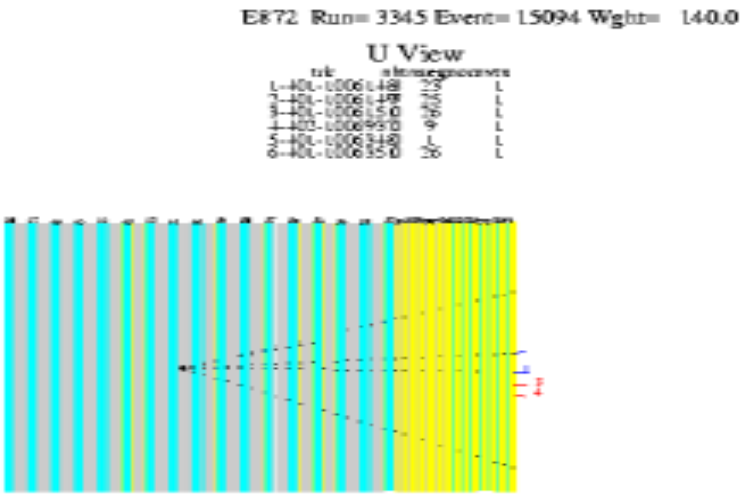
>>>>>>>>>>>>>>>>>> Reconstructed Vertices in 3345_15094 <<<<<<<<<<<<<<<<<<<<

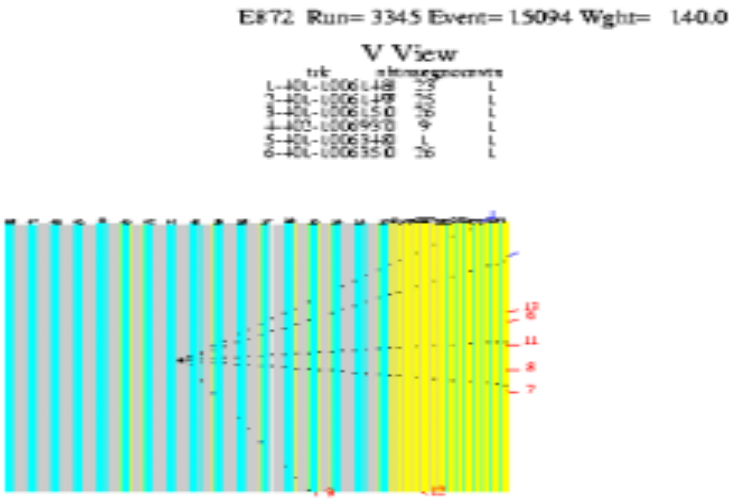
ivx= 1 vtx= 1089.42 95163.06 -3851.92 plt= 461

trk	nseg	IP micron	vtx chi	spect nht	trk chis	trk mom	dthet U	dthet V	thet U	thet V
1-461-1007649	30	0.31	.18	8	3.0	0.0	-0.001	-0.001	-0.010	0.084
2-462-1009321	11	0.01	0.00	7	0.8	0.0	0.000	-0.005	-0.008	-0.001
3-462-1009320	36	0.64	0.51	7	6.7	0.0	0.008	-0.021	-0.003	0.001
4-461-1007652	37	0.41	0.30	0	0.0	0.0	0.000	0.000	0.009	-0.040
5-461-1007651	22	0.54	0.54	0	0.0	0.0	0.000	0.000	0.040	-0.038
6-461-1007910	13	0.44	0.35	0	0.0	0.0	0.000	0.000	-0.177	-0.024
7-451-1008185	5	1.35	1.06	0	0.0	0.0	0.000	0.000	0.006	-0.038
8-461-1007907	4	0.28	0.13	0	0.0	0.0	0.000	0.000	-0.280	-0.232
9-461-1007648	33	0.44	0.36	0	0.0	0.0	0.000	0.000	0.072	-0.074

Event 3345_15094

“Secondary” vertex





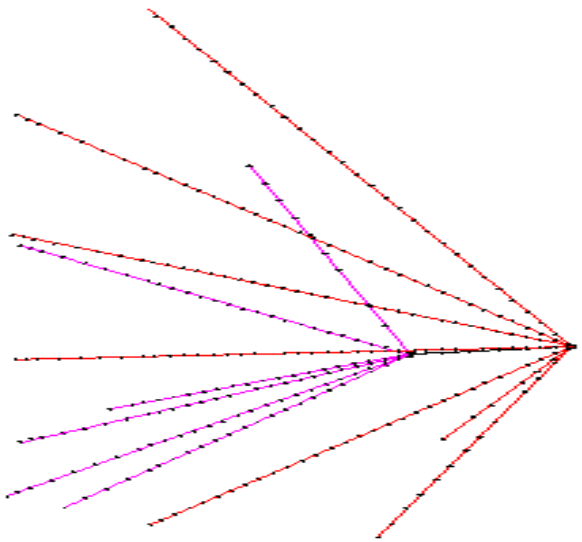
>>>>>>>>>>>>>>>>>> Reconstructed Vertices in 3345_15094 <<<<<<<<<<<<<<<<<<<<

ivx= 1 vtx= 992.01 95148.39 7977.49 plt= 401

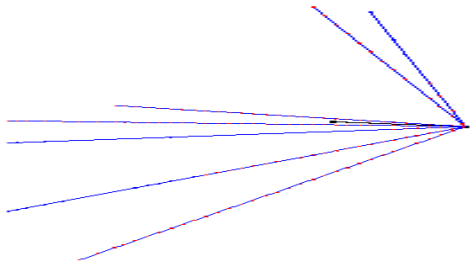
trk	nseg	IP micron	vtx chi	spect nht	trk chis	trk mom	dthet U	dthet V	thet U	thet V
1-401-1006149	25	0.35	0.18	7	6.8	0.0	-0.004	-0.010	0.010	0.070
2-401-1006148	23	0.81	0.88	8	0.3	0.0	-0.005	-0.014	-0.003	0.101
3-391-1006406	4	0.34	0.06	0	0.0	0.0	0.000	0.000	-0.103	-0.112
4-401-1006351	26	0.81	0.76	0	0.0	0.0	0.000	0.000	-0.067	-0.014
5-402-1006937	9	0.63	0.39	0	0.0	0.0	0.000	0.000	0.046	-0.223
6-401-1006151	26	0.25	0.09	0	0.0	0.0	0.000	0.000	0.051	0.013

Event 3345_15094 Emily's figures

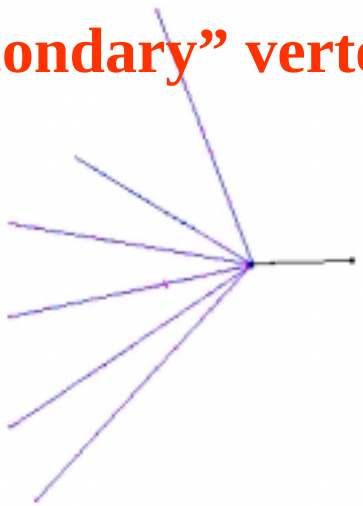
Both "primary" & "secondary"



"Primary" vertex



"Secondary" vertex



On-going Work

- We are working on the remaining 7 events that need vertex predictions.
- We are investigating the reasons we were not able to identify upstream connected “primary tracks” in the fake vertex candidates .
- We are continuing to process m-files attempting event location . Also we intend to create a list of the events that we are unable to locate along with the reasons of event location failure.
- We are processing the new released decay m-files searching for kinks...