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Neutral(Detached) Decay Search
(Not Complete)

- Did "systematic neutral" decay search on all events

- Using Bruce's "v0decay" code

- Shanti has modified the analysis code to write out vertex parameter information to a ntuple such as …
  - number of vertices/event
  - number of tracks/vertex
  - track angles
  - decay lengths, etc …
- Selected sample from above study to check by "eye"

Selected sample

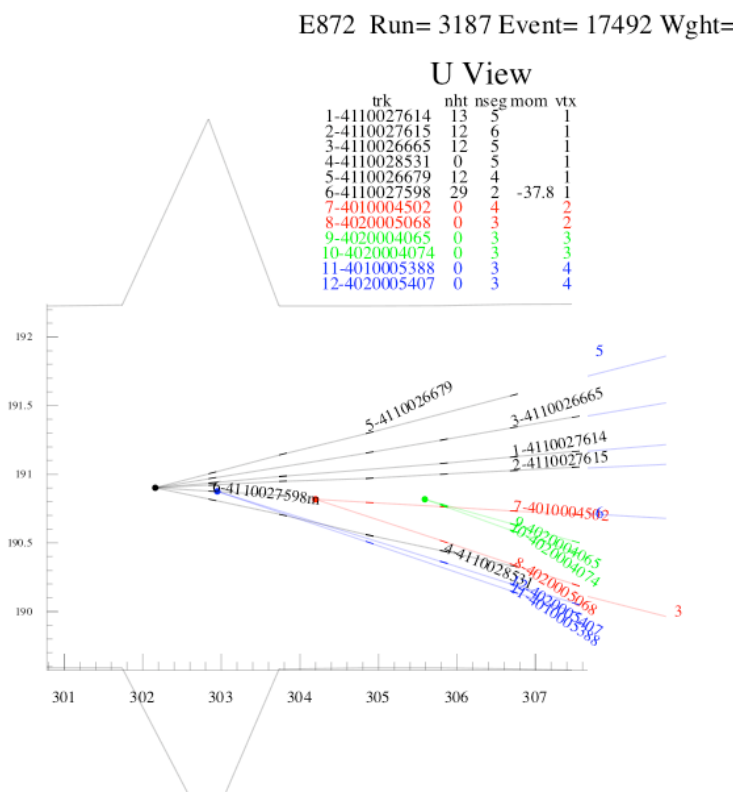
- parent angle < 0.1 radians
- pseudo - average impact parameter < 300 microns
- decay length < 10 mm
- number of vertices/ event < 10
- No SFT match required

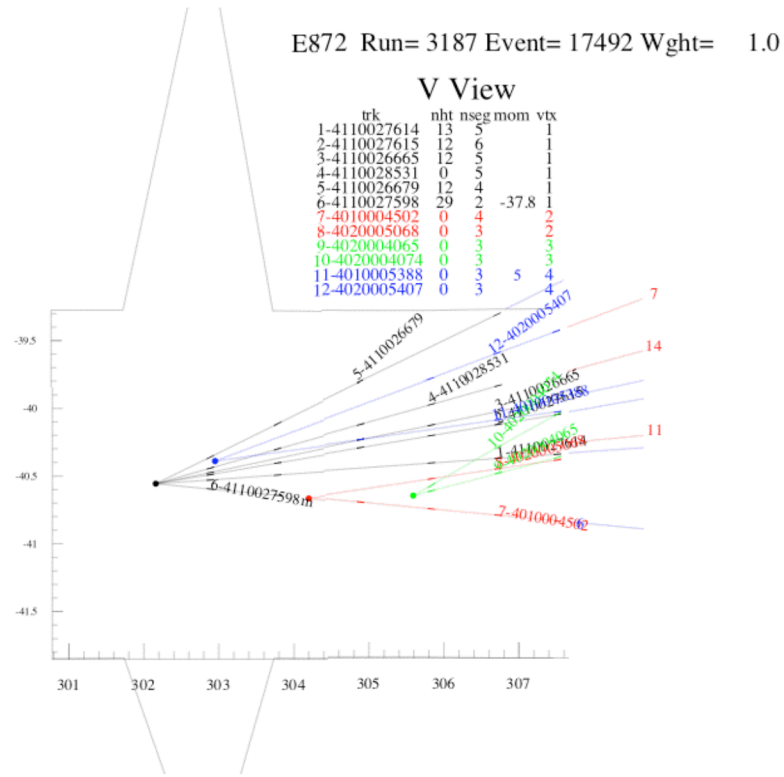
-> 20 events remain

Charm

run	event	decay length (mm)	parent angle (radians)	opening angle (radians)	pseudo I.P. (mm)
2808	17867	6.213864	0.7937786E-01	0.2655597	0.1512840
2825	5555	6.712086	0.2769078E-01	0.14238E-01	0.1538486
2890	3828	9.110308	0.7516351E-01	0.1984768	0.1651629
2986	355	1.428545	0.7196272E-01	0.74690E-01	0.1174455
2991	7358	9.656359	0.2417952E-01	0.12061E-01	0.3815965E-01
3005	11384	4.346229	0.4323741E-01	0.61884E-01	0.2172951
3008	27594	6.279501	0.2427299E-01	0.88390E-01	0.1440639
3073	22977	4.027009	0.4468285E-01	0.97121E-01	0.1578795
3136	15846	0.950843	0.9712040E-01	0.51175E-01	0.2699704E-01
3137	23878	1.961254	0.1735892E-01	0.78928E-01	0.6924260E-01
3187	17492	2.035677	0.6695443E-01	0.2058138	0.1971039
3194	17570	3.780957	0.8054377E-01	0.19568E-01	0.2741340
3222	46432	7.070541	0.8461886E-01	0.2835338	0.2244030
3235	11264	0.731825	0.6440830E-01	0.1993097	0.1781365
3241	18363	1.659572	0.9879511E-01	0.46792E-01	0.1547988
3249	3536	0.920526	0.8356711E-01	0.30481E-01	0.4176979E-01
3257	19107	5.533755	0.5534864E-01	0.2540422	0.3225507E-01
3350	4291	0.745475	0.5119003E-01	0.1207380	0.1165688
3352	26934	1.711011	0.9429614E-01	0.2947647	0.4607275E-01
3356	17099	1.203358	0.6485436E-01	0.2546852	0.1508016

Example event - Broken track +accidental link?

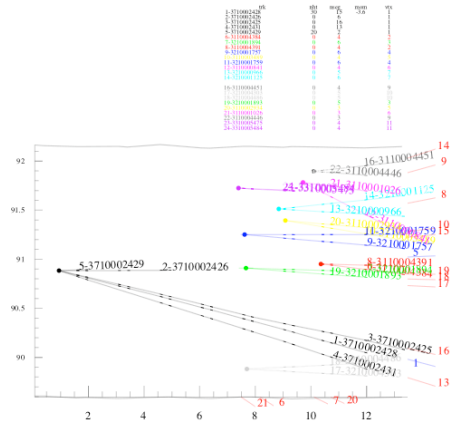




Another Event - I think this one is in the lead…

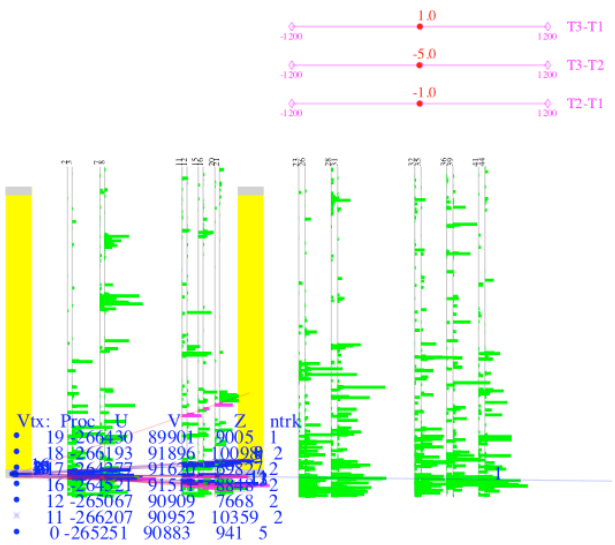
E872 Run= 2825 Event= 5555 Wght= 1.0

V View



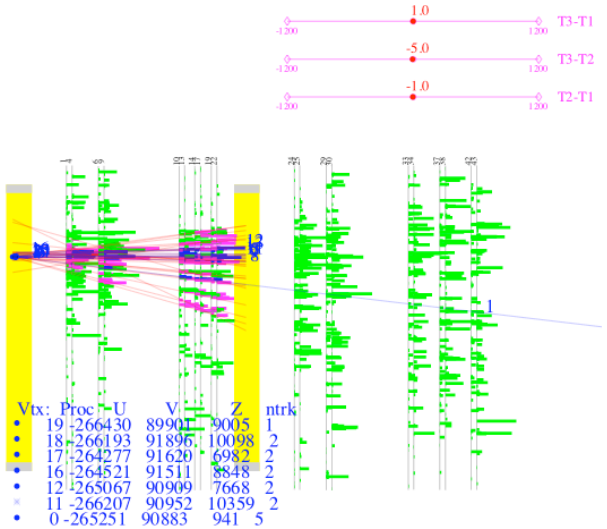
E872 Run= 2825 Event= 5555 Wght= 1.0

U View

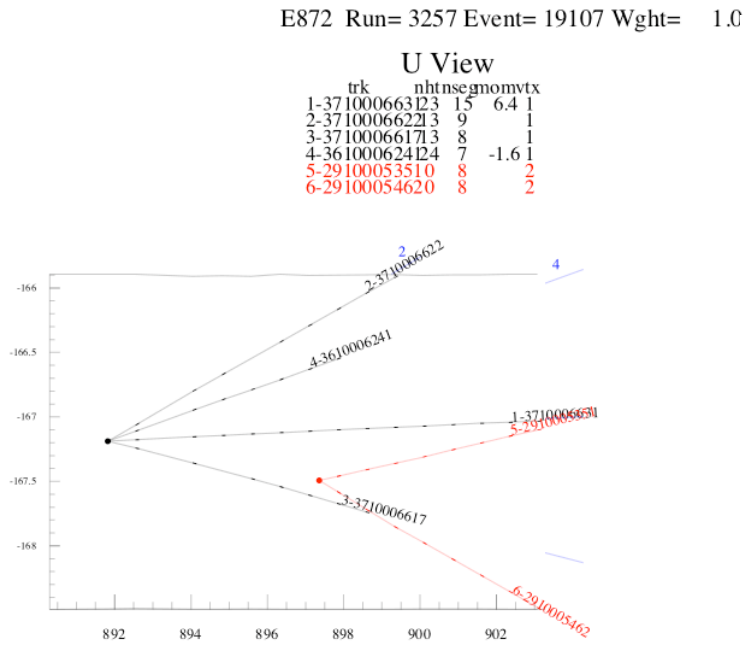


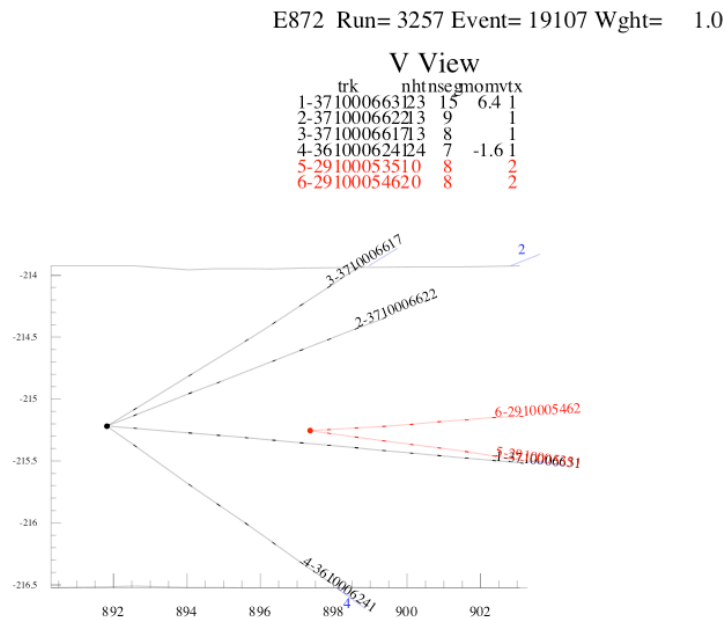
E872 Run= 2825 Event= 5555 Wght= 1.0

V View



Another Event - What's Wrong with it? - No SFT match





Summary of Vee search

Known Charm Vee Candidates:

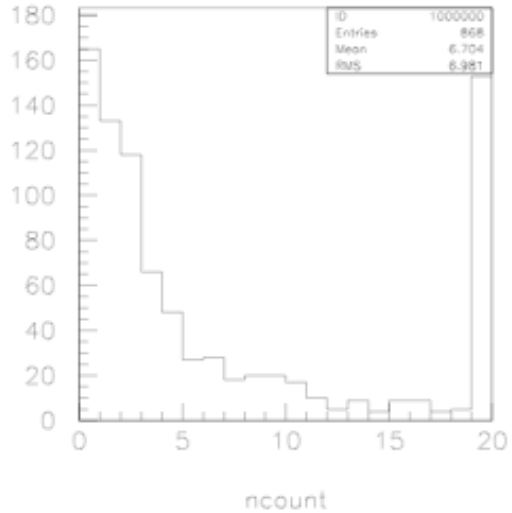
2986-355 SFT Match
3005-11384 No SFT Match
3073-22977 SFT Match
3137-23878 SFT Match
3249-3536 No SFT Match

Even though No SFT Match Maybe we should look at these more closely …

3257-19107
3008-27594
3352-26934
2890-3828

Conclusions and further work

- Some Vees could be verified by Nagoya?
- I need to run Monter Carlo to optimize cuts and understand efficiency - but I think they're high already.
- Will(Shanti) fix ntuple to allow true calculation of ***<b>***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RMS 6.981
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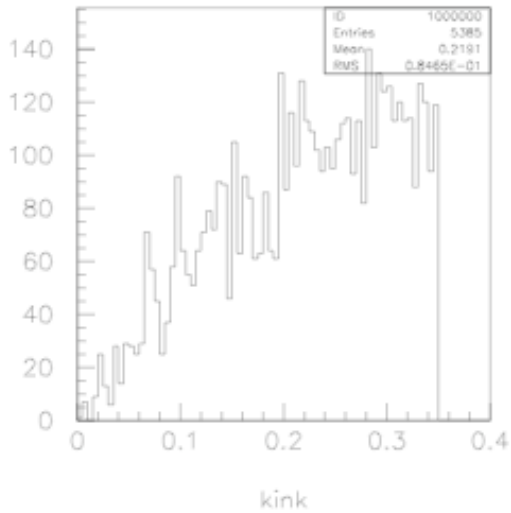
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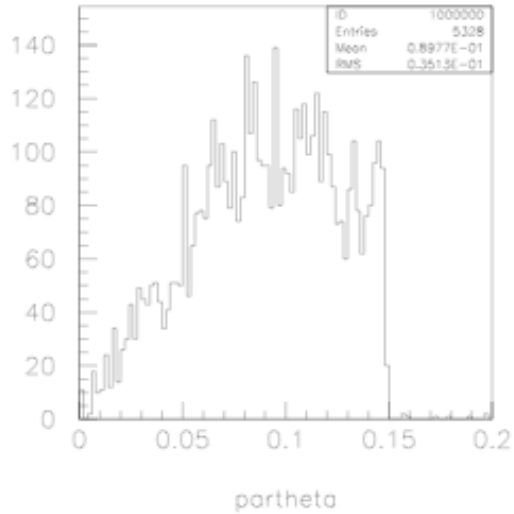
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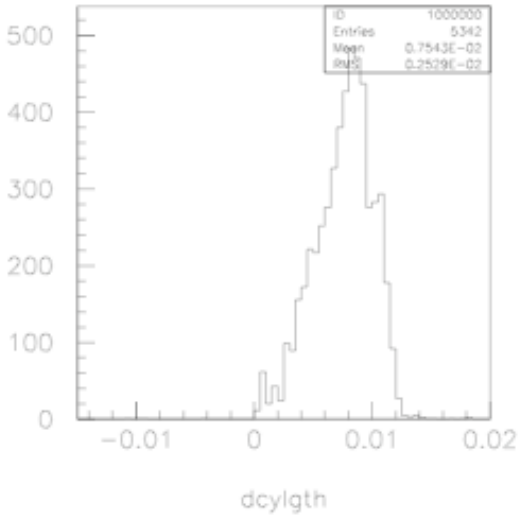
partheta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