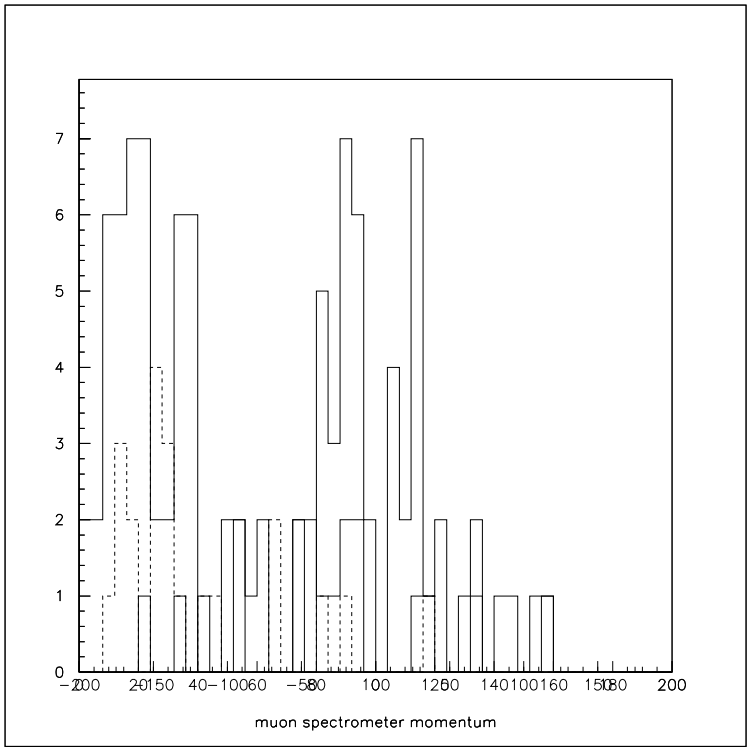
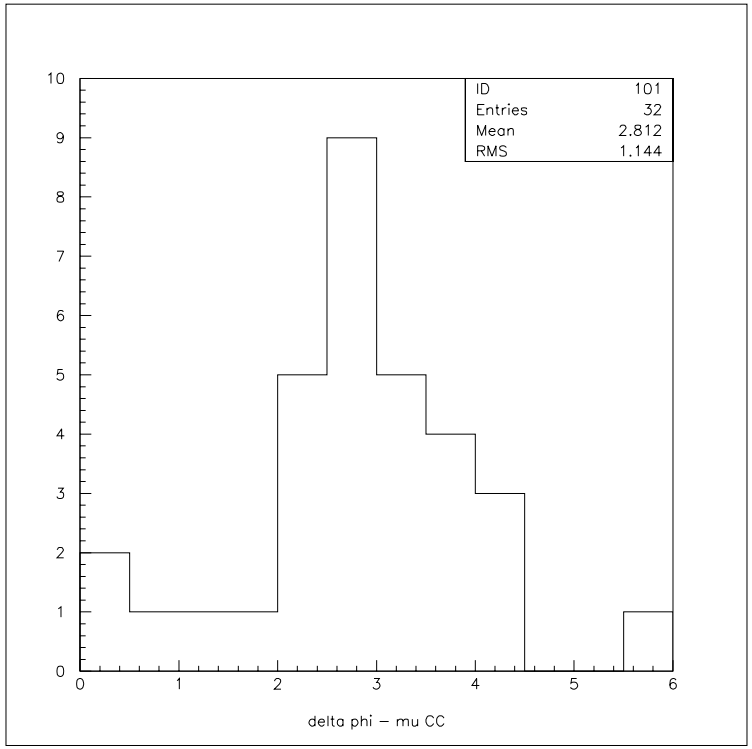
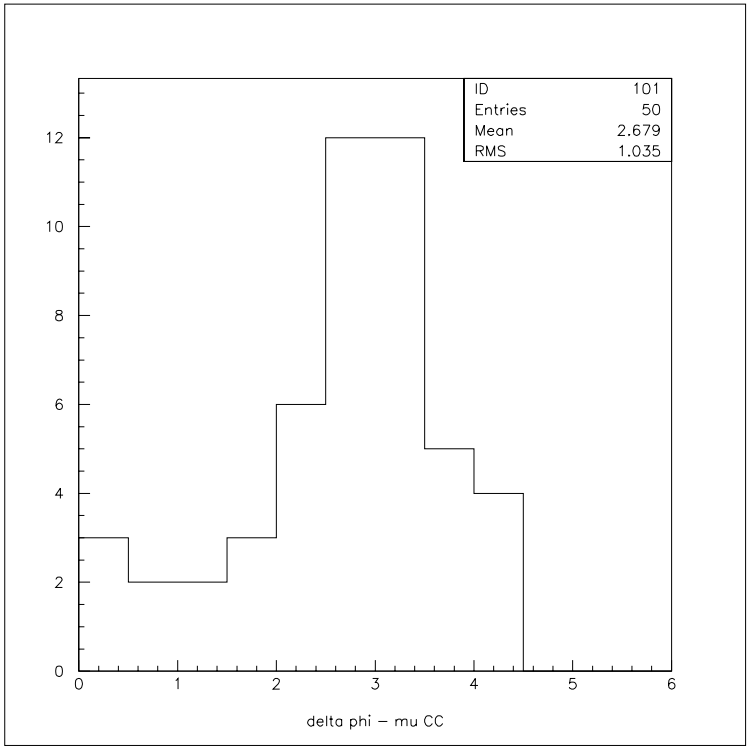

muon spectrometer momentum


ID 101
Entries 32
Mean 2.812
RMS 1.144
delta phi – mu CC



R. Rameika
October 26, 2001
Pittsburgh Collaboration Meeting

This report summarizes the status of files on fnbblx which can be used for analysis. Also included is the status of the analysis for muon CC events located in Phase2.

I. Directory of fnbblx /data2/phase2/dcy

20000131
20000210
20000214
20000215
20010115
20010122
20010214
20010215
20010220
20010221
20010226
20010227
20010301
20010302
20010305
20010306
20010607
20010612
20010613
date_dir.list
ecfsal.list
phase2.list

date_dir.list

Phase 1 and Phase 2 LOCATED Events

This list indicates the name of the directory on the Nagoya NT machine OR fnbblx where one can find emulsion data for each located event.

For Nagoya (133.6.128.11) the data is found in /1/inetpub/pub/e872/200ymmdd

For fnbblx the data is found in /data2/phase2/dcy/200ymmdd (note, event though the directory is /phase2/, both phase1 and phase2 events are included.

2793_02633	20000214
2793_02633	20000131
2808_17867	20010612
2808_17867	20010613
2809_11206	20010607

```
2809_11206       20010613

ecfsal.list
-----------
2793_02633 20000131  2.3
2793_02633 20000214  3.2
2808_17867 20010612  3.3
2808_17867 20010613  2.4
2809_11206 20010607  3.3
2809_11206 20010613  2.4
2811_21998 20000131  2.3
2811_21998 20000214  3.2
2841_00723 20000131  2.3
2841_00723 20000214  3.2
2879_00907 20000131  2.3
2879_00907 20000214  3.2
2879_10407 20000131  2.3
2879_10407 20000214  3.2
2881_06129 20000131  2.3
2881_06129 20000214  3.2
2884_10377 20000131  2.3
2884_10377 20000214  3.2
2884_18223 20000131  2.3
2884_18223 20000214  3.2
2889_22859 20000131  2.3
2889_22859 20000214  3.2

phase2.list
------------
LOCATED EVENTS - PHASE2

 2808_17867       20010612
 2808_17867       20010613

 2809_11206       20010607
 2809_11206       20010613

 2810_00291       20010115

 2852_07545       20010115

 2897_04055       20010214
 2897_04055       20010215

 2899_08585       20010305

 2899_23193       20010607
 2899_23193       20010613

 2910_05629       20010214
 2910_05629       20010215

Example of contents of a "date directory"
-----------------------------------------
/20010115/
3101_09193.all.dcy  3101_09193.all.ecv  3101_09193.all.gz   3101_09193.dft
```

Note : the .dcy and .ecv file are generated by running ecvtxa_c_20 in the decay search mode using the vertex found in the corresponding .dcy file at Nagoya. However the US and Nagoya results do not match exactly because our ecvtxa is not exactly the same as the one currently being run at Nagoya.

II. Myanal

Event data is also organized on fnbblx in the "event" directories.
In /data2/events each event that was stripped from the .nustrip files
has its own directory XXXX_YYYYY. Each includes the file XXXX_YYYYY.rft.
The directories may also contain the following files :

```
XXXX_YYYYY.V0_dft : location m-file; vertex unknown
XXXX_YYYYY.V1_dft : decay mfile; no verticies
XXXX_YYYYY.V2_dft : decay m-file; ecvtxa verticies; ecfsal 2.3/2.4
XXXX_YYYYY.V3_dft : decay m-file; ecvtxa verticies; ecfsal 3.3/3.4
XXXX_YYYYY.dkcd : DKCARD used to generate daft mfile
XXXX_YYYYY.fit : spectrometer/emulsion fit for located events
```

The /data2/event/ directory also contains a number of .lis files.
Some are more useful than others. They have a format which is only
compatible with the myanal version that I developed over the summer.
(It is not in the libraries because it is still under development.
See me if you want to try and use it.)

Example of a .lis file

```
*Phase 2 muons (55/134 = 41%)
2879_12293  V0  rft
2899_23193  V3  rft
2929_20792  V3  rft
2934_00494  V3  rft
2986_00355  V3  rft
2986_10774  V3  rft
2998_00127  V3  rft
3005_11384  V3  rft
3007_22813  V3  rft
3024_03606  V3  rft
3067_14134  V3  rft
3067_18502  V3  rft
3067_20156  V3  rft
3073_22977  V3  rft
3096_29351  V3  rft
3102_04584  V3  rft
3110_06126  V3  rft
3110_27773  V3  rft
3111_09249  V3  rft
3112_29143  V3  rft
3116_02059  V3  rft
```

III. Location m-files

I have also begun the process of getting the location m-files
for the still NOT FOUND events, i.e. the files from the Nagoya
/j directory. The following date subdirectories exist along with
a text file listing their contents :

```
20001209      20010320      20010419      20010508      20010530
20001209.lis  20010320.lis  20010419.lis  20010508.lis  20010530.lis
20001214      20010327      20010420      20010510      20010531
20001214.lis  20010327.lis  20010420.lis  20010510.lis  20010531.lis
20001216      20010401      20010430      20010511      20010605
20001216.lis  20010401.lis  20010430.lis  20010511.lis  20010605.lis
20001229      20010403      20010501      20010520      20010606
20001229.lis  20010403.lis  20010501.lis  20010520.lis  20010606.lis
20010104      20010410      20010502      20010521      cs_net.lis
20010104.lis  20010410.lis  20010502.lis  20010521.lis  mfile.lis
```

Most of these directories are still empty. One exception is 20010521 :

```
2794_14283_201.all     2986_24191_200.all.gz  3102_02116_200.all.gz
2884_18223_201.all.gz  2986_24191_201.all.gz  3111_03238_200.all.gz
2884_18223_202.all.gz  2989_10623_201.all.gz  3112_16934_200.all.gz
2895_00723_202.all.gz  2990_09199_200.all.gz  3113_08545_200.all.gz
2895_00723_203.all.gz  2991_17651_201.all.gz  3123_02276_200.all.gz
2895_23994_201.all.gz  2991_17651_202.all.gz  3145_12751_201.all.gz
2895_23994_202.all.gz  3004_02356_201.all.gz  3147_12601_200.all.gz
2895_23994_203.all.gz  3004_28391_200.all.gz  3170_18197_200.all.gz
2919_03157_202.all.gz  3005_03511_201.all.gz  3172_15502_201.all.gz
2919_03157_203.all.gz  3040_09776_201.all.gz  3172_15502_202.all.gz
2934_14854_201.all.gz  3040_20015_201.all.gz  3177_16190_200.all.gz
2934_14854_203.all.gz  3040_20015_202.all.gz  3182_10057_201.all.gz
```

Charged Current MUON Event Analysis

I begin with the list of LOCATED Phase 2 events (134 from Nagoya).
I run "myanal" WITHOUT the emeulsion data (i.e. from .rft file).
The following 55 events pass a muon ID cut and 54 have a spectrometer
momentum calculated. Of the 54 there are 20(+), 34(-).

Run	Event	Uspec	Vspec	Zspec	CBA	pmom
2879	12293	-174755.1	-104493.9	616524.2	221	-39.1
2899	23193	-229414.6	-147981.8	26336.3	122	17.5
2929	20792	-128610.3	16485.4	-9989.1	121	-8.3
2934	494	97068.0	-174725.0	-16043.8	122	25.9
2986	355	-650.2	154351.9	879591.5	112	65.9
2986	10774	-196747.4	101059.1	899789.2	222	45.2
2998	127	146561.7	102261.4	877607.1	222	-34.8
3005	11384	180505.9	55131.4	30826.8	222	40.0
3007	22813	-54111.5	-258391.2	620633.9	122	-153.7
3024	3606	-3792.6	82000.0	29854.7	222	-39.6
3067	14134	-16920.8	-152914.0	40796.9	121	-20.9
3067	18502	-65429.9	117535.1	863274.9	112	27.1
3067	20156	-3955.4	-232217.1	871213.8	222	-4.2
3073	22977	16367.8	-63924.6	602158.6	122	14.8
3096	29351	75058.3	-228914.9	296510.6	222	24.5
3102	4584	155028.7	77640.2	15906.0	212	-17.6
3110	6126	-150013.8	-18905.7	624307.7	222	-32.0
3110	27773	-65990.9	47923.8	587057.2	221	30.3
3111	9249	-42408.8	-150309.2	-2177.5	222	-76.6
3112	29143	-156973.8	73545.6	-14411.7	222	-82.9
3116	2059	-21549.6	-150949.4	592542.1	222	-22.3
3117	9388	-125218.5	43009.3	297827.2	222	-18.2
3118	29133	-181996.4	-37597.6	877643.6	220	-6.5
3118	29587	156531.6	-2759.5	854833.4	122	-11.4
3119	2266	195844.2	-120672.5	34190.3	222	-114.2
3119	6573	-48537.5	30341.6	300609.8	222	-30.3
3119	26736	86905.0	172191.6	-3691.4	222	-17.1
3140	386	41167.6	-72481.1	34920.5	222	-10.8
3145	12751	-222452.3	-66834.0	6006.4	222	-14.8
3186	21341	-113539.3	9932.8	32885.3	121	12.3
3191	3827	6710.1	-66177.9	301273.1	222	-72.4
3193	27298	165934.3	-7134.3	881192.3	222	-132.4
3194	11316	-61466.4	-73699.4	34519.1	222	14.6
3219	12108	-170959.7	-13127.9	600051.6	221	10.5
3219	14317	5717.4	-15326.1	-3103.9	222	89.8
3221	3597	56899.8	-70234.5	304472.7	22	25.0
3222	46432	-192762.0	66024.1	304319.9	122	-10.2
3229	17034	-221664.4	44419.0	20062.1	222	-34.8
3235	14090	26000.0	-176000.0	15200.0	222	-34.1
3235	19061	-100831.4	-144741.2	605319.8	202	33.0
3237	15875	186367.6	140439.4	885986.1	222	19.9
3240	4338	-11009.5	-70232.0	563871.0	22	-19.5
3242	7721	-64538.3	-23551.5	589522.1	221	28.8
3244	7138	73158.1	124466.8	823663.0	222	-26.7
3245	8175	205436.8	-64752.3	25952.8	222	-49.8
3245	8659	-210517.2	98226.9	43214.8	121	67.8
3248	23101	-205149.1	-191356.2	879885.8	222	-11.8
3262	23394	223178.3	26000.0	9984.1	211	0.0
3345	22440	-127156.0	-77938.2	856193.6	222	-91.2
3351	18516	-493.9	181198.8	888871.2	221	29.6
3352	26934	104585.3	99122.1	601826.4	222	80.9
3353	9333	63660.4	71496.5	599940.1	222	-89.3
3353	29125	185285.5	166759.0	896095.2	222	-48.6
3356	3543	-130479.3	82094.8	607021.4	212	119.6
3357	12249	-218390.7	-103258.4	570167.6	212	-16.2

[See rameika_1.ps]

On-going Analysis : for each of these events I need to locate the vertex
in the daft m-file, and then try to match the muon to one of the
emulsion tracks. If an acceptable match is made (+/- 15mrad to the
SF slope) then I calculate delta-phi between the muon and the charged
hadronic tracks (-> can only be done for event multiplicities >=3).
The muon momentum is also recalulated using the vertex constraint.

Status : events with no emulsion track ID are still being worked on.

Phase 2 muons October 2001 MYANAL

Run	Event	CBA	Pspec	CBA	Pemul	EMUL ID	d_phi
2879	12293	221	-39.1	221	-39.1	0	0.00
2899	23193	122	17.5	122	17.5	0	0.00
2929	20792	121	-8.3	0	0.0	0	0.00
2934	494	122	25.9	122	27.3	461004995	2.01
2986	355	112	65.9	222	51.8	551004275	3.07
2986	10774	222	45.2	222	0.0	0	0.00
2998	127	222	-34.8	222	-30.7	401005074	3.12
3005	11384	222	40.0	222	42.4	111002616	0.01
3007	22813	122	-153.7	122	-76.5	72004419	0.04
3024	3606	222	-39.6	222	-39.6	0	0.00
3067	14134	121	-20.9	121	-18.3	71004159	3.63
3067	18502	112	27.1	112	22.6	541004680	2.87
3067	20156	222	-4.2	0	0.0	0	0.00
3073	22977	122	14.8	122	16.0	351003486	2.16
3096	29351	222	24.5	222	25.0	421007984	2.23
3102	4584	212	-17.6	212	-14.7	281002883	3.64
3110	6126	222	-32.0	222	-28.0	211008858	2.79
3110	27773	221	30.3	221	0.0	0	0.00
3111	9249	222	-76.6	222	-52.1	431002998	4.21
3112	29143	222	-82.9	222	-99.1	451002638	2.45
3116	2059	222	-22.3	0	0.0	0	0.00
3117	9388	222	-18.2	222	-86.7	462003099	1.15
3118	29133	220	-6.5	220	-6.4	471004051	4.46
3118	29587	122	-11.4	112	-2.4	551004883	2.88
3119	2266	222	-114.2	222	-91.5	112004325	2.58
3119	6573	222	-30.3	222	-20.4	451004201	2.40
3119	26736	222	-17.1	222	0.0	0	0.00
3140	386	222	-10.8	222	-10.8	71003039	3.78
3145	12751	222	-14.8	212	0.0	0	0.00
3186	21341	121	12.3	121	0.0	0	0.00
3191	3827	222	-72.4	222	-42.8	291004786	3.18
3193	27298	222	-132.4	222	-78.3	481005610	4.27
3194	11316	222	14.6	222	0.0	0	0.00
3219	12108	221	10.5	0	0.0	0	0.00
3219	14317	222	89.8	222	0.0	0	0.00
3221	3597	22	25.0	22	26.7	411003568	1.73
3222	46432	122	-10.2	122	-8.7	411004300	5.84
3229	17034	222	-34.8	222	0.0	0	0.00
3235	14090	222	-34.1	222	-34.1	0	0.00
3235	19061	202	33.0	202	43.2	311006470	2.90
3237	15875	222	19.9	0	0.0	0	0.00
3240	4338	22	-19.5	22	-17.1	522003565	2.81
3242	7721	221	28.8	221	39.4	442003777	2.50
3244	7138	222	-26.7	222	-27.0	801004083	3.33
3245	8175	222	-49.8	222	-44.3	271006170	3.44
3245	8659	121	67.8	121	0.0	0	0.00
3248	23101	222	-11.8	212	-8.4	621005761	0.78
3262	23394	211	0.0	211	0.0	0	0.00
3345	22440	222	-91.2	222	-91.2	0	0.00
3351	18516	221	29.6	221	0.0	0	0.00
3352	26934	222	80.9	222	80.7	352004729	3.65
3353	9333	222	-89.3	222	-72.7	371007940	2.91
3353	29125	222	-48.6	0	0.0	0	0.00
3356	3543	212	119.6	212	87.1	482002791	2.94
3357	12249	212	-16.2	212	0.0	0	0.00

[See rameika_2.ps]

We can compare these events to the similar analysis which was
done for the Phase I muons.

[See rameika_3.ps]