

SQL update

```
MySQL [triton-work]>
MySQL [triton-work]> select run_number, Kinematic, target
from MARATHONrunlist where run_number <= 1240;
```

run_number	Kinematic	target
1207	1	Carbon
1208	1	Empty Cell
1210	1	Helium-3
1211	1	Helium-3
1212	1	Helium-3
1213	1	Hydrogen
1214	1	Deuterium
1215	1	Tritium
1216	1	Empty Cell
1217	1	Empty Cell
1218	NULL	Helium-3
1220	1	Helium-3
1221	1	Helium-3
1222	1	Hydrogen
1223	1	Deuterium
1224	1	Tritium
1226	NULL	Carbon Hole
1227	NULL	Carbon Hole
1228	NULL	Carbon Hole
1229	NULL	Carbon Hole
1231	2	Optics
1232	2	Carbon
1233	2	Carbon
1234	2	Empty Cell
1235	2	Helium-3
1236	2	Helium-3
1238	2	Helium-3
1239	2	Helium-3
1240	2	Hydrogen

29 rows in set (0.00 sec)

```
[jbane@utkjlal Runlist]$ analyzer -l
analyzer [0] .L ~/headers/SQLanalysis.h
analyzer [1] jj =SQL_Kin_Target("15_2nd","H3")
(std::vector<int, allocator<int> > &) { 2750, 2751, 2752,
2764, 2765, 2766, 2781 }
analyzer [2] █
```

```
[jbane@utkjlal Runlist]$ analyzer -l
analyzer [0] .L ~/headers/SQLanalysis.h
analyzer [1] jj =SQL_Kin_Target_RL("7","D2")
(std::vector<RunList, allocator<RunList> > &) { @0x554ff9
0, @0x554ffa0, @0x554ffb0, @0x554ffc0, @0x554ffd0, @0x554
ffe0 }
analyzer [2] for(i=0;i<jj.size();i++){jj[i].print();}
Run number : 1370 Kinematic 7_1st
Run number : 1372 Kinematic 7_1st
Run number : 1380 Kinematic 7
Run number : 1381 Kinematic 7_1st
Run number : 2619 Kinematic 7_2nd
Run number : 2620 Kinematic 7_2nd
analyzer [3] █
```

```
[jbane@utkjlal Runlist]$ analyzer -l
analyzer [0] .L ~/headers/SQLanalysis.h
analyzer [1] jj =SQL_Kin_Target_RL("7","D2")
(std::vector<RunList, allocator<RunList> > &) { @0x68168e0, @
0x68168f0, @0x6816900, @0x6816910, @0x6816920, @0x6816930 }
analyzer [2] j=RLtoint(jj)
(std::vector<int, allocator<int> > &) { 1370, 1372, 1380, 138
1, 2619, 2620 }
analyzer [3] l=RLtoint(jj,"7_2nd")
(std::vector<int, allocator<int> > &) { 2619, 2620 }
analyzer [4] █
```

SQL runlist

- Run info

- Run number `analyzer [2] RunInfo runinfo = GetRunInfo(1208)`
- Type “production”.... `(RunInfo &) @0x7f8eaa8718e8`
- Kinematic “1”, “7th_1st”
- Time of run in minutes
- Prescale factor for main trigger (2 of 5)
- A qualifier/flag for a good production/electron analyzable run.
 - Not Cosmic,
 - Electron trigger, longer then a few minutes

```
analyzer [4] PrintRunInfo(1210)
This the run info for run 1210
target = Helium-3           type =Production
time in mins:30.71        PS main trigger1
```

Runlist updates

- Double check the target in the SQL runlist verses the Target (BDS pos) in the rootfile
 - Compared using the Target SQL table
 - If the targets where different change the SQL table to match the rootfile.
- Other great functions
 - structure and function → TargetInfo
 - Name, type(gas...),bds pos, density correction parameters, thickness,
 - structure and function → AnalysisInfo
 - Current, charge, density correction value($1+c1*I+c2*I^2$) and the error on the correction(WIP),

Analysis DB

```
+-----+-----+-----+-----+-----+-----+-----+
| run_number | current | charge | trigger_id | livetime | trigger_counts | trigger_events |
| elist      |         |        |             |          |                | Kinematic     |
+-----+-----+-----+-----+-----+-----+-----+
|          |         |        |             |          |                |                |
+-----+-----+-----+-----+-----+-----+-----+
```

- What else should we add?
 - PID efficiency (Calo, Cher, total)
 - Tracking efficiency
 - Trigger efficiency
 - Positron correction
 - Contamination correction
- Maybe make a Corrections DB instead.
- Add different charge calculations for different cuts.
 - Beam on, Above 5uA, with 10% of nominal....