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| Lawrence Berkeley Laboratory - University of California Engineering Note | | Code SR0210 | Serial M7724 | STAR Doc # SN 0373 | Page 1 of 1 |
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| Program | Solenoidal Tracker at RHIC |
| Sub program | Time Projection Chamber - Assembly and Test |
| Title | Weight of TPC and TPC Supported Hardware |

Introduction:

The following table contains the weight of the Time Projection Chamber's (TPC) components, TPC supported hardware and detector subsystems. The weight categories correspond to various phases of the TPC's construction and installation. Max LBNL was the weight during transcontinental shipping, Max BNL Lift is the weight at the time of installation into the STAR Magnet, Installed Wt. W/CTB is the weight with all 120 CTB modules mounted, Installed Wt. W/TOF assumes all Central Trigger Barrel modules have been replaced with Time of Flight modules. The basis for the weights shown is listed in the right hand column. Where the weight of an item is a significant portion of the total, either a detailed accounting of the volume and density of its constituents or direct measurement was used.

| Item | Weight of TPC (lb.) | | | | Basis |
|------------------------|---------------------|-----------------|-------------------------|-------------------------|----------------------|
| | Max LBNL | Max BNL Lift | Installed Wt. w/ CTB | Installed Wt. w/ TOF | |
| IFC | 107 | 107 | 107 | 107 | close est |
| OFC | 4991 | 4991 | 4991 | 4991 | close est |
| Wheel | 3100 | 3100 | 3100 | 3100 | measured |
| Wheel Brkts/Adj | 227 | 227 | 227 | 227 | rough est |
| TOF rails | 1080 | 1080 | 1080 | 1080 | exact |
| Outer Sectors | 2520 | 2520 | 2520 | 2520 | measured |
| Inner Sectors | 1752 | 1752 | 1752 | 1752 | close est 75# ea, |
| Gas Manifolds at wheel | 0 | 0 | 200 | 200 | removed for lift |
| FEE | 128 | 1539 | 1539 | 1539 | measured |
| FEE Manifolds | 480 | 480 | 480 | 480 | rough |
| RDO | 51 | 607 | 607 | 607 | close est. |
| RDO manifolds | 15 | 360 | 360 | 360 | rough |
| RDO/FEE Cable | 39 | 468 | 468 | 468 | close est |
| Dist Manif/hose | 240 | 390 | 390 | 390 | rough |
| CTB modules (120 ea.) | 0 | 660 | 3960 | 0 | measured/ 33# ea. |
| TOF modules (120 ea.) | 0 | 0 | 0 | 4800 | Est, G.Mutchler 9/98 |
| TOF cables/hose | 0 | 0 | 240 | 240 | rough |
| RDO elect. brkts | 24 | 24 | 24 | 24 | rough |
| SVT, Cone Assy &SSD | 0 | 0 | 365 | 365 | Mech Des Rev 3/98 |
| FTPC | 0 | 0 | 809 | 809 | FDR action item 1 |
| TOTAL | 14753 | 18304 | 22409 | 23249 | |

Notes:

TPC partially populated with CTB (20 of 120) at initial installation