Tracker Meeting Minutes

Time: 2024/2/23 10:00 – 12:10

Participants: DENG Zhi (邓智), DONG Mingyi (董明义), FAN Yunyun (樊云云), FU Chengdong (傅成栋), FU Jingyu (付金煜), JI Quan (纪全), LI Gang (李刚), LI Yiming (李一鸣), LIANG Zhijun (梁志钧), GENG Qinglin (耿青林), QI Huirong (祁辉荣), SHI Xin (史欣), WANG Meng (王萌), WU Linghui (伍灵慧), XU Zijun (徐子骏), ZHANG Yao (张瑶), ZHAO Guang (赵光),

Minutes: WANG Meng

* JQ: mechanical outline for the tracker system. After lengthy discussions, we agreed the following dimensions for the beginning, subject to fine change in the future.
  + Gaseous tracker: outer radius 1800 mm, inner radius 600 mm, length 5800 mm
  + Inner silicon tracker: 3 layers, endcap inner radius following cos(theta) = 0.99
* LYM: reported cost estimation for CMOS sensors, less than 35 kCNY/m2 with 90% yield.
* TPC vs DC
  + QHR: current TPC can work in Z-pole run with single-point resolution worsened from 100 µm to 200 – 300 µm. Simulation is ongoing.
  + DMY: calculated occupancy for the worst situation in Z-pole run, and DC should work. Finite-element simulation is ongoing for mechanical design.
* Discussions on PID.
* Action items
  + Lists of simulations for different options or sub-detectors will be prepared.
  + Template tables will be prepared for comparing TPC and DC.
  + All values filled in the above tables shall be proven or explained.
  + LYM and LZJ will contact Manqi for PID requirements.
* The next meeting will be held on the next Friday.
  + TPC vs DC
  + PID requirements
  + lists of simulations