

Minutes of The PID subgroup meeting, Tuesday, 3rd March 2009, GSI

The participants for the PID-TOF meeting did not show up (except Vladimir Vikhrov) so that the meeting was changed to a longer Cherenkov meeting.

Albert Lehmann talked about work made in Erlangen. Surface scans of the Burle-Planacons showed for the 25um type and for the 10um type a uniformity of 5% and one which was worse, respectively. The gain factors were 2 and 7 for the 25um and 10um type, respectively. The Hamamatsu SL10 showed a good uniformity but also cross talk, probably through the HV bleeder. He iterated the MCP-PMT aging problem. His estimate about 0.8 C/cm²/yr for the barrel DIRC, 3.8 C/cm²/yr for the focussing DIRC and 9.6 C/cm²/yr for the TOP DIRC limit the live time of the photon detector which has typically 1-2 C/cm². He showed tests of a Hamamatsu Al-foil protected type with 3.5C/cm² and only 10% loss in QE.

Vladimir Vikhrov simulated with PYTHIA and DPM the secondaries measured as background in the Forward-TOF. The a created mainly by the beam line and affect especially elastically scattered pbars. He reconstructed the mass and found a pi/K separation of 2.5-3 GeV/c for a time resolution of 100ps.

Tibor Keri simulates the light guide for the focussing DIRC and uses barrier functions to optimize the curvature parameters.

Euan Cowie showed results from the radiation tests. The discrepancy between the BaBar result for Suprasil quartz and that one of the Glasgow test is likely due to the fact, that the BaBar sample was made of Suprasil2. The investigated the properties of Suprasil311 as an alternative to Suprasil1, which makes it easier to produce large sheets of the material. The transmission loss for 100kRad radiation is 2% for Suprasil311 and 6% for Suprasil2 at a wavelength of 200nm. He showed that the out gassing of Epotek glue is important to prevent air bubbles in the glue. The mechanical suspension was shown and discussed. It is not clear if the glue joints are in optimal direction.

Michael Sporleder showed data taken recently with a small scale prototype at DESY and describes the time spectra with a MC-simulation after folding in a time resolution of 160ps.

Benno Kröck presented details of certain problems and their cure during beam time like noise on the HV line, ringing on signal lines. He showed slides about systematic measurements of the light guides of Klaus Föhl, which replaces Klaus old measurements (accuracy of 10⁻⁴) with his Märklin train and the laser pointer. Further he showed MC simulations of time differences between detectors attached to the disk.

Klaus Föhl presented his plans for the CEARA, a disk DIRC for WASA. Experience from this DIRC should go into the PANDA DIRC development.

Roland Hohler showed results from his radiator internal reflectivity studies at

GSI. He presented values for LithotecQ0 fused silica bars which make their usage for the barrel DIRC possible. He also showed values for Plexiglas 233GS, which were with 60-80 Angstroem surface roughness not suited for the barrel DIRC radiator.