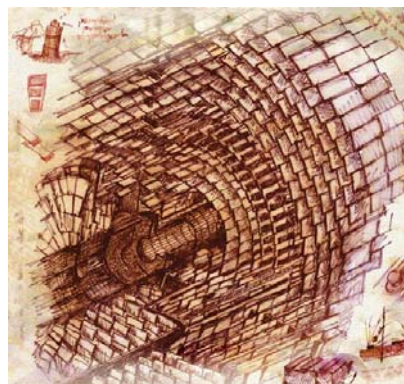




Forward Pixel Geometry Status

Neeti Parashar

Purdue University Calumet
Hammond, Indiana





- **Overall positive response from the Tracker workshop**
- ***Two main issues***
 - *Numbering Scheme*
 - *Local Coordinate System*
- **Increase in Manpower**
 - *Purdue University Calumet*
 - *University of Puerto Rico*
 - *University of Colorado*



- **Changes made to existing numbering scheme for PANELS**
 - **#0 panel is closer to IP in both Endcaps**
 - **#1 panel further to IP**

- **The modified code has been committed into CVS**



- The definition of **Local coordinate system** is derived from the **Geometry description of plaquettes (sensors)**
 - X is along the Length of Sensors (2-5Rocs)
 - Y is along the width of Sensors(1-2Rocs)
- But Morris Schwartz pointed out that the direction of the Lorentz drift is along the **X-axis, so**
 - We need to rotate X-axis and Y-axis, s.t.
 - Along X axis, there will be 1-2 ROCS
 - Along Y axis ,there will be 2-5 ROCS



- **Dmitry and Teddy ... we learnt that**
 - **As long as Z is in the correct direction & the XYZ frame is right-handed we do not need to make any changes**
 - **Pixel follows this convention**
 - **FPIX follows this convention (with no changes)**

- **However, Dmitry made a version with rotated X- and Y-axes to follow Filippo's convention**

- **The correct reference system for CMSSW is:**
 - **local z-axis is defined to be in direction of the thickness of the box**
 - **local y-axis is defined to be in direction of the longer side of the box**
 - **local x-axis is thus in direction of the shorter side of the box**

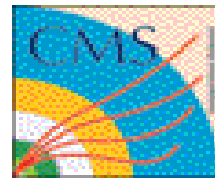


- **FPIX digitization:** Prof. Angel Lopez (full time, UPR)

- **Validation of Geometry of FPIX:** Osvaldo Aqunies
 - **Check the New Geometry (Dmitry Onoprienko)**
 - Position, material ...

- **Improvement of Simulation of FPIX:** Xingtao Huang
 - **Spatial resolution**
 - **Momentum resolution**
 - **Digitization (already existed)**
 - **Charge sharing**
 - **.....**

Manpower and Tasks



- Max Bunce (Colorado) would be responsible for the geometry for the service cylinder and create special geometries for the 2007 installation. (Needs confirmation with FPIX coordinator)
- Neeti's new postdoc (Vesna Cuplov) would take over maintenance of the FPIX geometry created by Dima (and Victoria) and new work on this geometry. Dima has agreed to continue to help and be consulted. (Confirmed)
- Xingtao and a new student from Puerto Rico will continue with the FPIX simulation work and be responsible for the FPIX simulations.
- Daniele and Marco (Milano) will continue on FPIX alignment
- Kevin and John (Colorado) will work on preparations for the 2007 installation. Together with Max they will study tracking when material in the service cylinder is included.
- Other tasks to be taken care of by 2007 pixel installation manager