STAR Geometry

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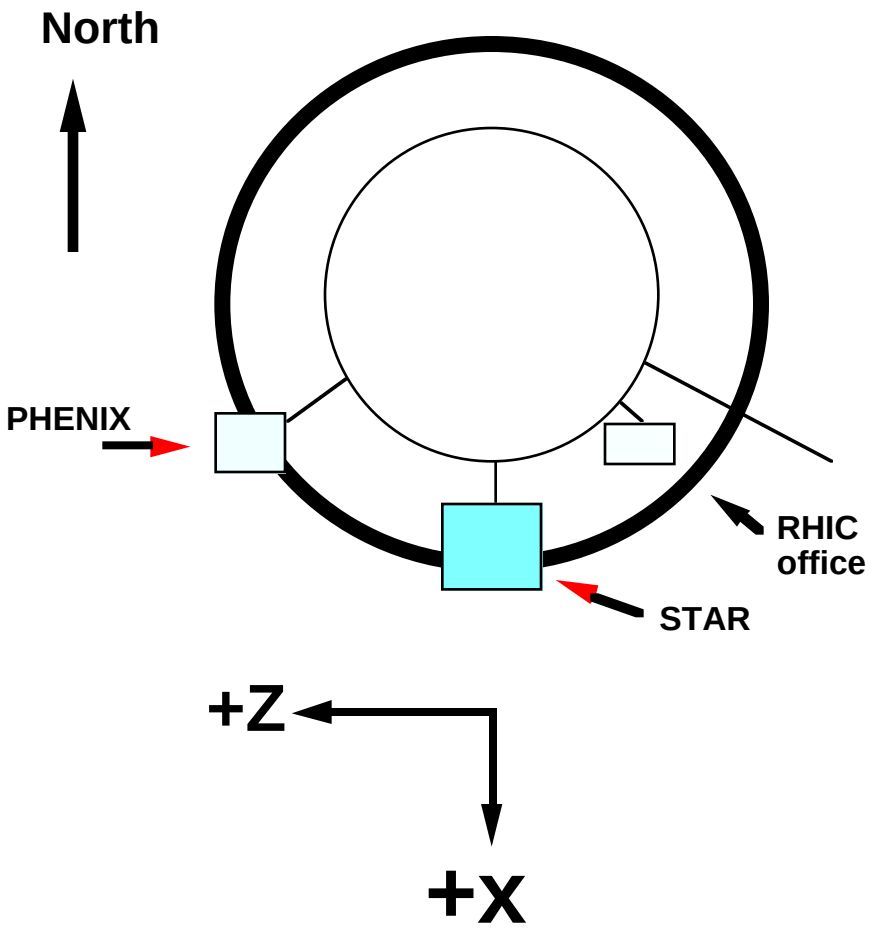
A general philosophy for numbering elements on the STAR detector is presented. This document describes the numbering system for the TPC, EMC, CTB/TOF, FEE and SVT. These numbers should be used to identify elements for both hardware and software.

Version 1.0 -- November 21, 1995 - Document issued
Version 2.0 -- March 12, 1996 - Defined EMC Barrel Geometry

It is important to have a common numbering system for both hardware and software. By having a well-defined and consistent labeling scheme, we can avoid much confusion. This document describes the system that the STAR collaboration has adopted.

During the August 1995 STAR collaboration, representatives from STAR met and agreed upon a common geometry and numbering system for both hardware and software. The note describes what is now the official STAR geometry and numbering scheme. All future drawings, labels and programs should follow the conventions established by this note.

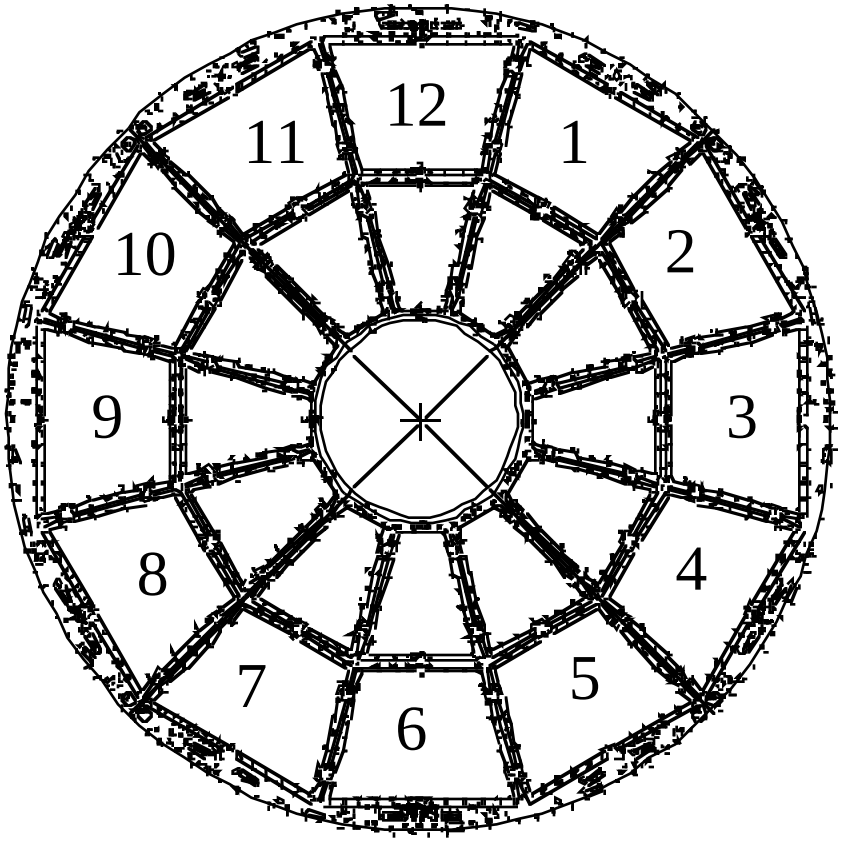


The STAR geometry is described in STAR note #121. Figure 1 shows a picture of RHIC looking from above the accelerator. As stated in SN #121, the standard STAR coordinate system is defined by:

- Positive y is up.
- The origin of the coordinate system is located at the center of the solenoid (iron). The direction y is perpendicular to the axis of the solenoid. The y-z plane is vertical and positive y points opposite (as closely as possible) the direction of gravity.
- Positive x points approximately south and away from center of the RHIC accelerator. Positive z points westward.
- The direction of the RHIC beam is defined by a view looking down upon the accelerator. At our detector the clockwise beam travels toward positive z and the counter-clockwise beam moves toward negative z.

General STAR Policy for Geometry

All detectors should be first numbered from the +z side (west end) looking toward the interaction region. The geometry of the detector is defined by the layout of the TPC wheel. If a detector needs additional number for detectors on the -z side, then the numbers should be consecutive with the +z elements.



TPC geometry and numbering scheme

The TPC sectors are numbered according to the STAR specification. The numbering is similar to that of a clock. The +z sectors are numbered from 1-12 while the -z sectors are numbered from 13-24. Each sector is numbered clockwise from the perspective a person looking into the TPC.