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3.4.5 Projections User Guide

Complete:

Overview

Two types of projected views are supported in Fireworks. They can have different configuration, but in the **simplest case** the following formula can be applied:

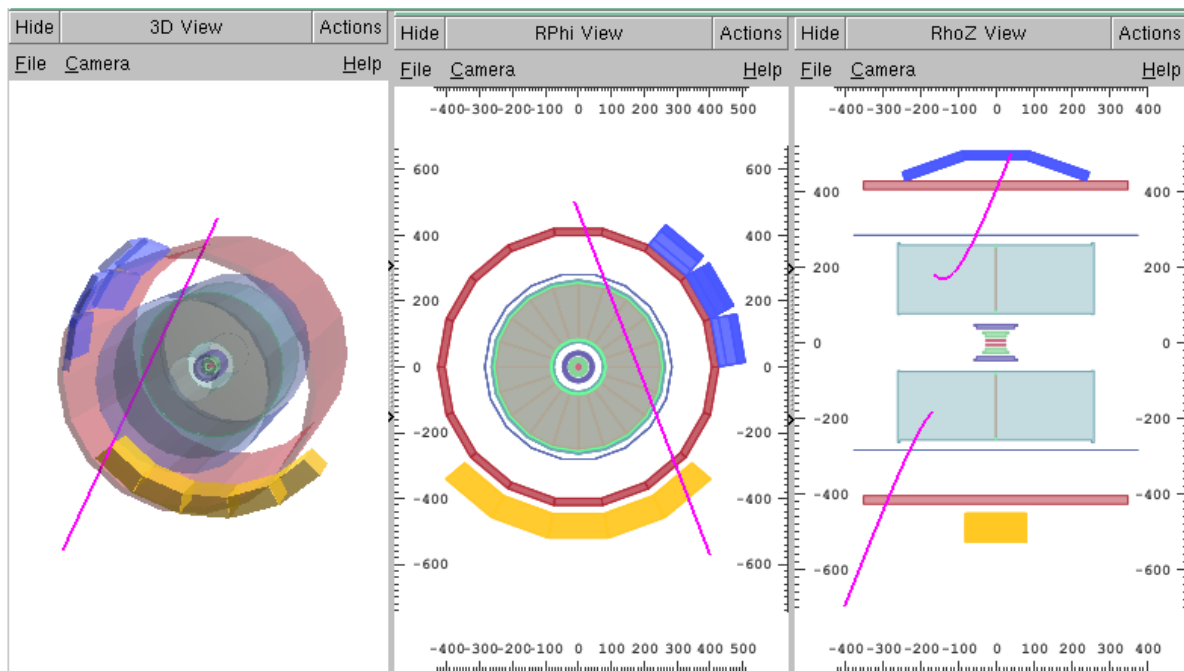
- **RPhi**, same as XY ortographic view :

$$\begin{aligned}x_{\text{screen}} &= x \\y_{\text{screen}} &= y\end{aligned}$$

- **RhoZ** projection is not YZ projection even in the simplest case. Screen X coordinate presents Z coordinate and Y screen coordiante presents distance to center with a sign of Y coordinate:

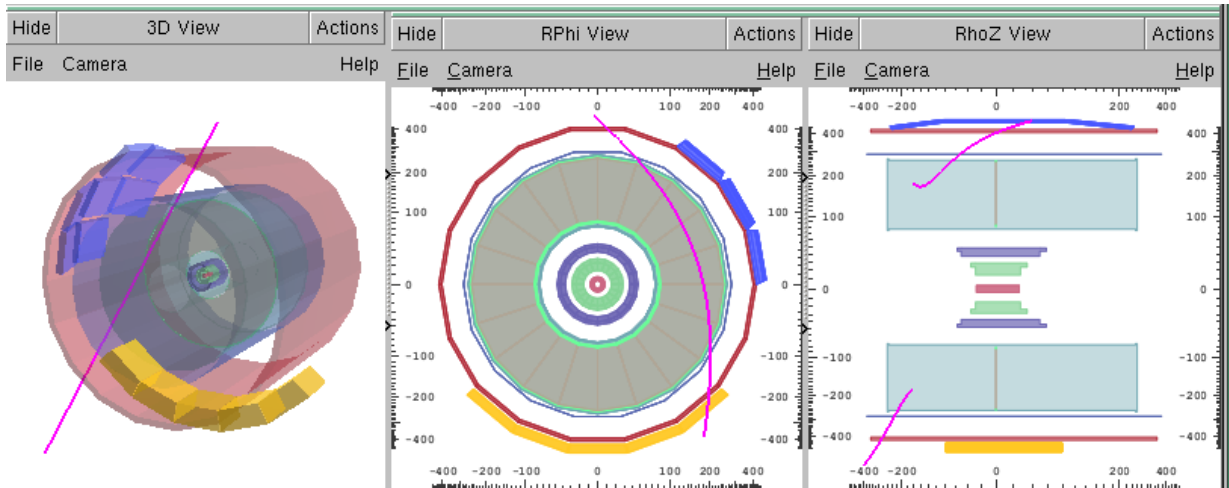
$$\begin{aligned}x_{\text{screen}} &= z \\y_{\text{screen}} &= \sqrt{x*x + y*y} * \text{sgn}(y)\end{aligned}$$

Bellow is a screen shot of ROOT demo showing the simplest case of the 2D projections. In left most picture is a straight line and a geometry in 3D view. Next to it are shown the same elements in projected RPhi and RhoZ view.



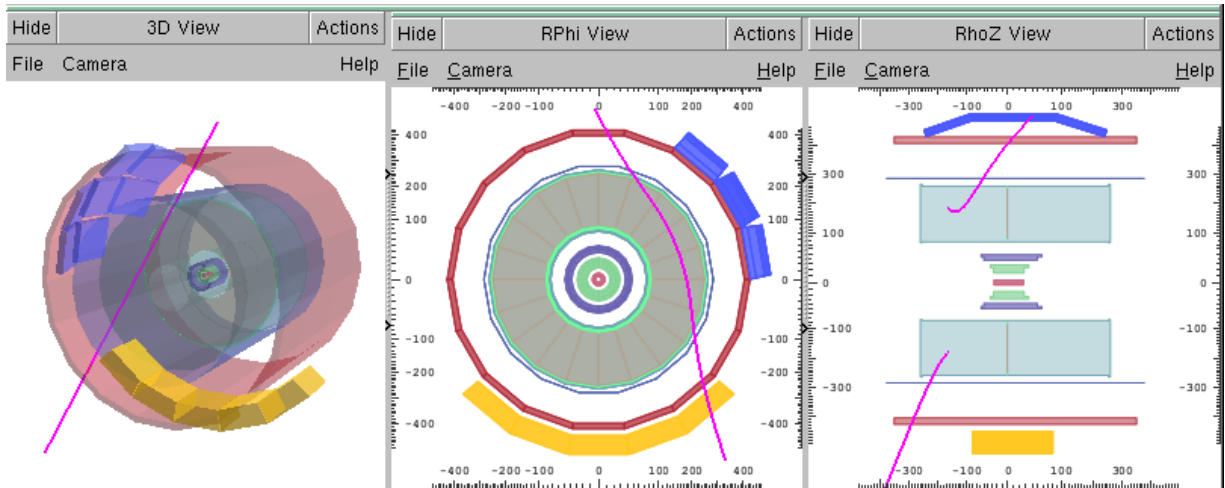
Distorted 2D projections

FishEye distortion is used to enlarge central region of detector. In the picture bellow are example of 2D projected views with distortion value of 3.



Fixed Radius in distorted projections

Distortion can be locked above defined radius. If you compare this picture with the one above you can see the outer layer of geometry is less distorted.



More Info

Original idea for the projections was taken from **H. Drevermann** article [Can We See What We Want to See](#) ?[↗](#)

Review status

Reviewer/Editor and Date (copy from screen)	Comments
AntonioMorelosPineda - 17 Apr 2013	Upgrade to workbook style
AljaMrakTadel - 11 Jul 2012	Created.

Detailed comments 17-Apr-2013 [▢](#) [Hide ▾](#)

Upgrade to workbook style, A.Morelos, 17-Apr-2013

Responsible: AljaMrakTadel

Last reviewed by: AntonioMorelosPineda - 17 Apr 2013

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