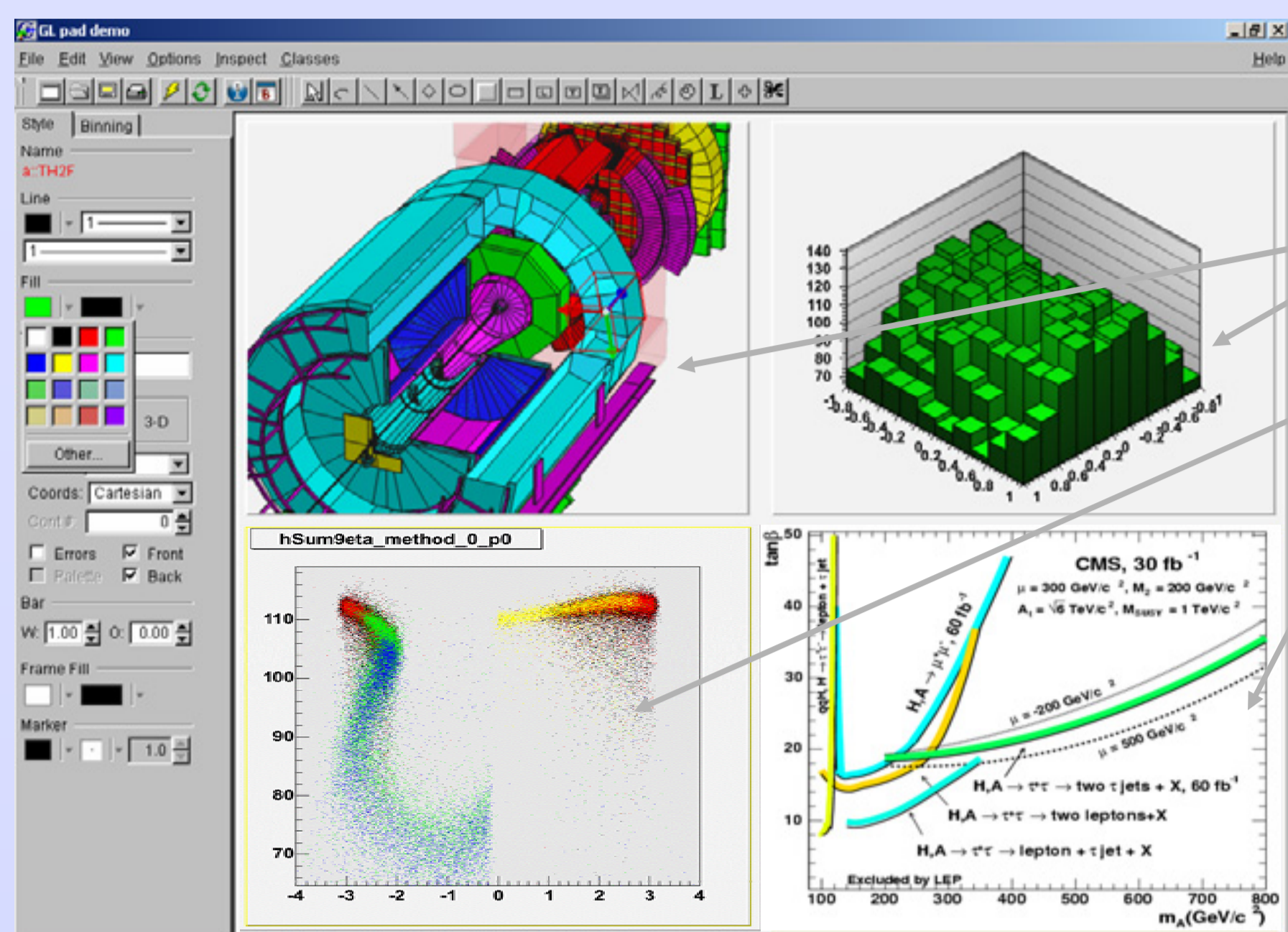
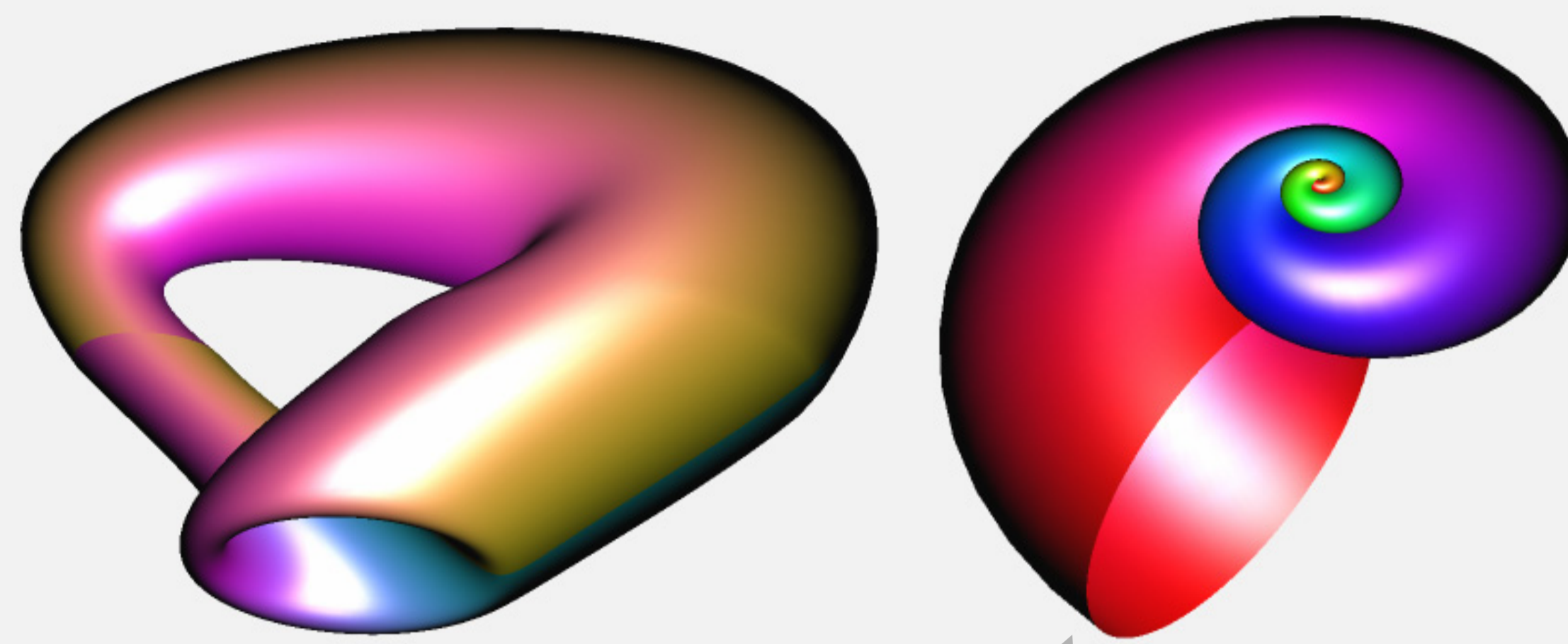




This poster shows some of the new features recently introduced in ROOT 2D and 3D graphics.

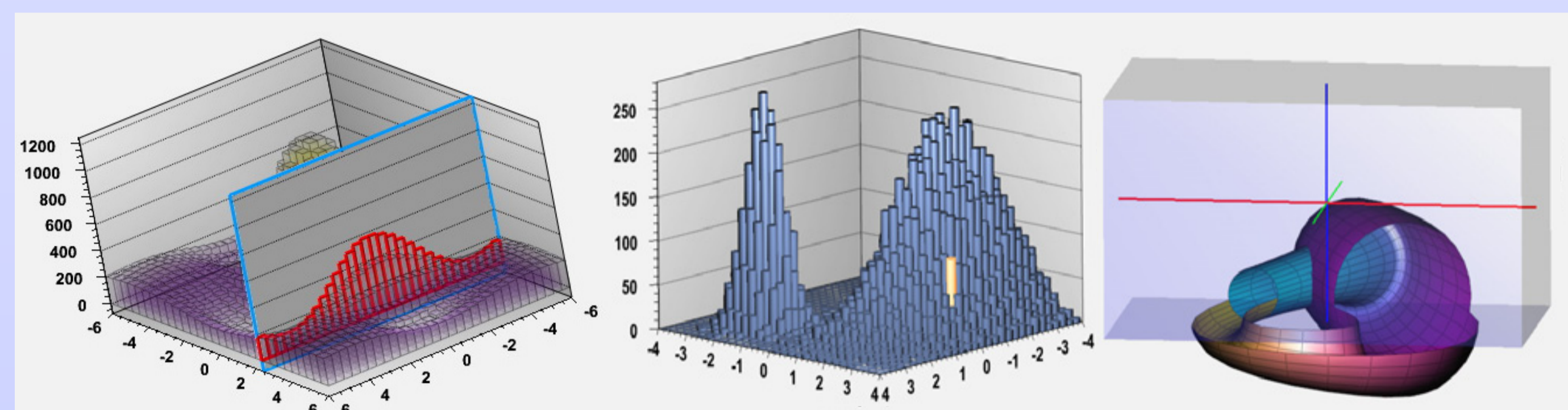


OpenGL 3D graphics can be mixed in a TPad with standard 2D graphics. Output can be generated in various formats (postscript, gif, jpeg etc ..).



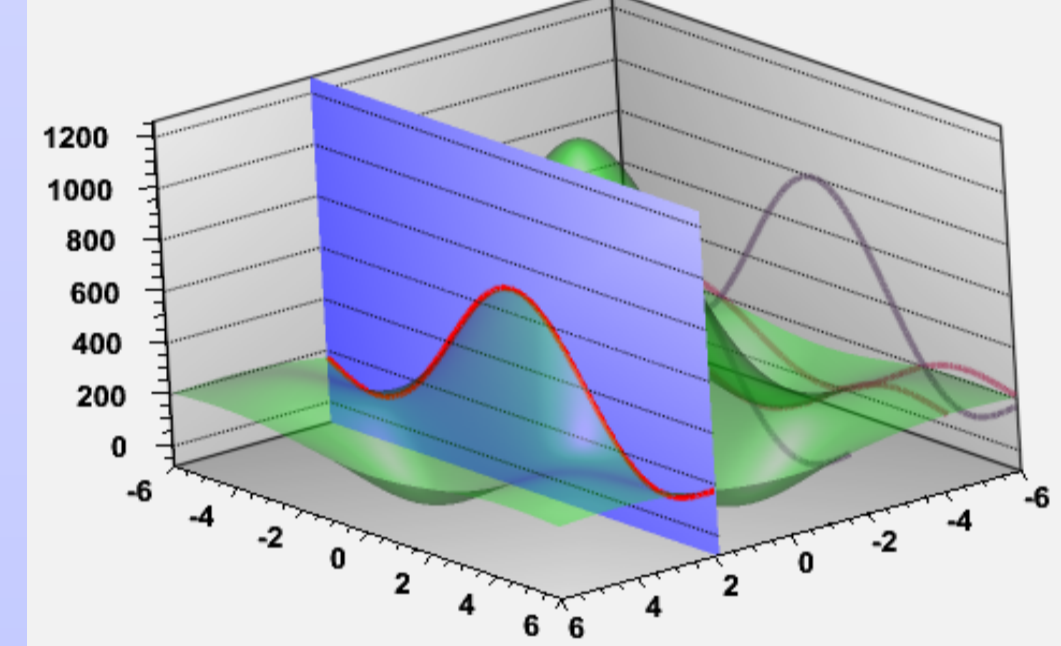
Parametric functions:

```
TGLParametricEquation p1("Conchoid",
    "1.2 ^ u * (1 + cos(v)) * cos(u)",
    "1.2 ^ u * (1 + cos(v)) * sin(u)",
    "1.2 ^ u * sin(v) - 1.5 * 1.2 ^ u",
    0., 6 * TMath::Pi(),
    0., TMath::TwoPi());
p1.Draw();
```



Several interactions are possible on 3D OpenGL plots:

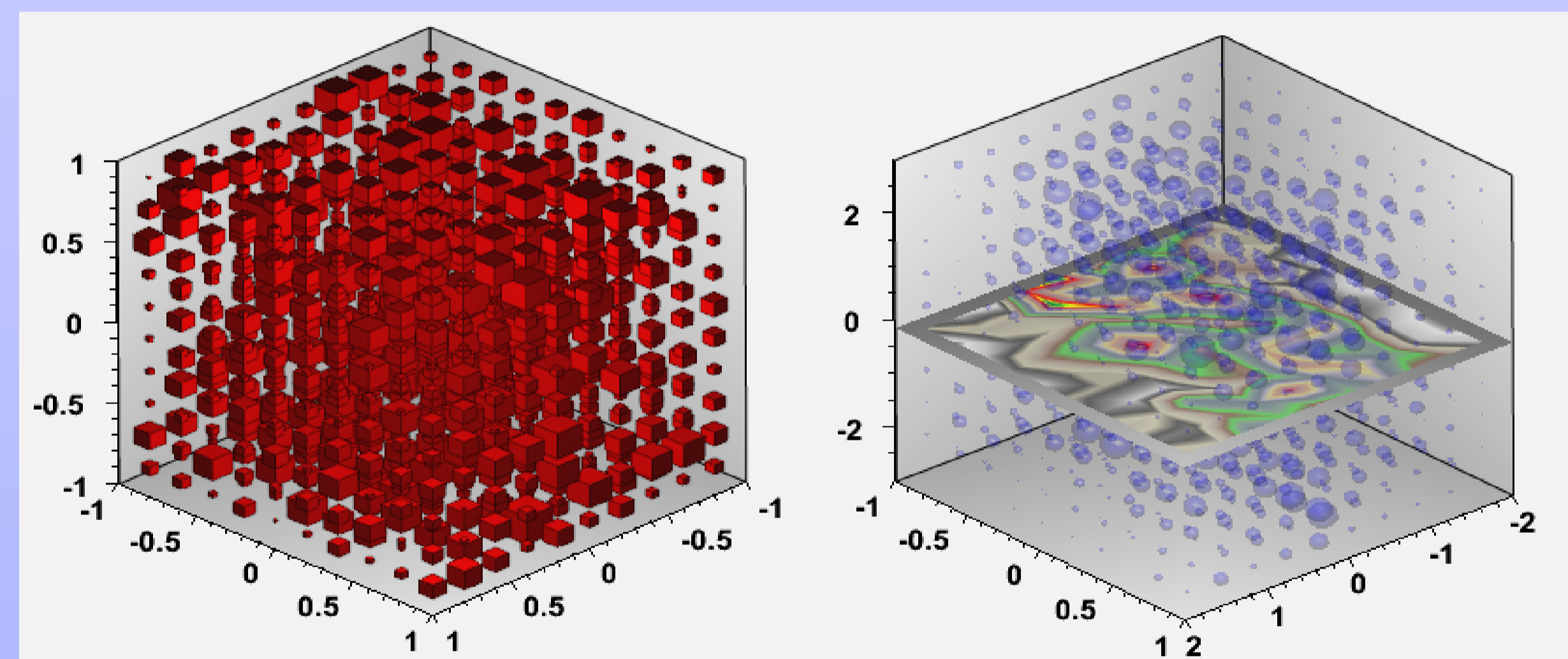
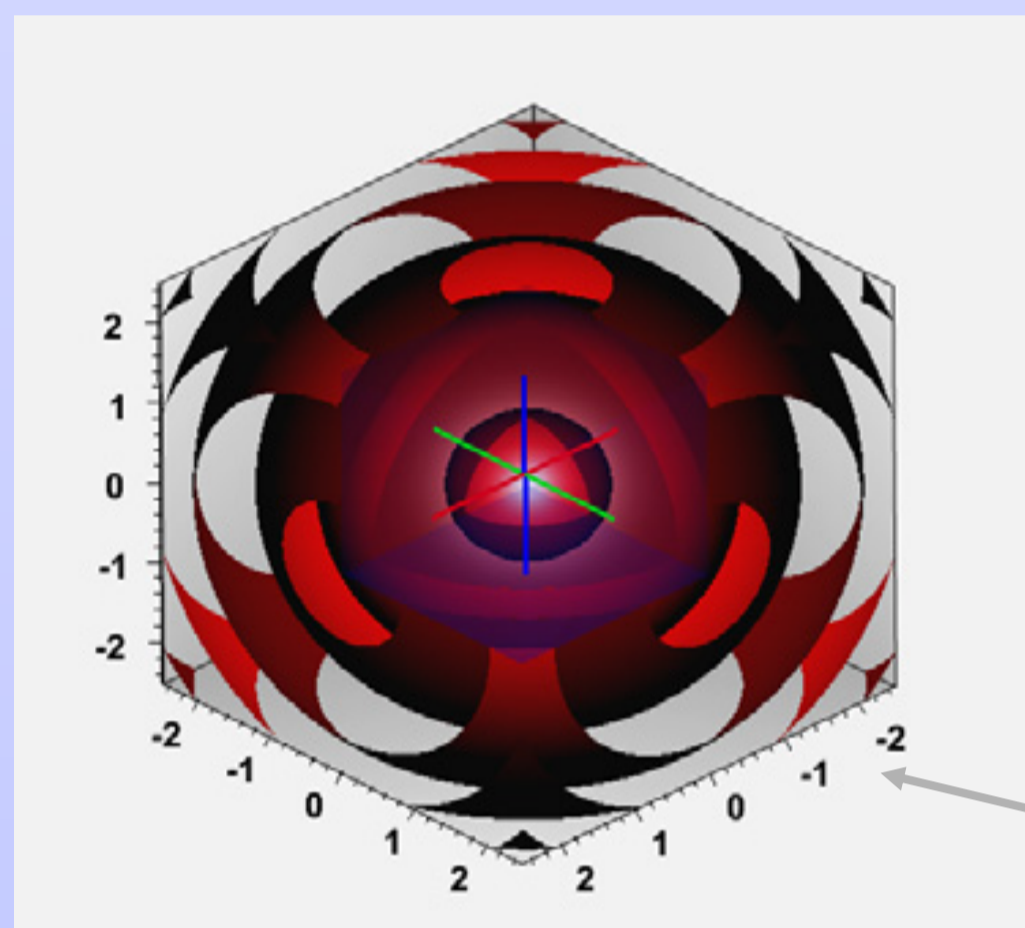
- zooming, panning, rotation,
- bins highlight,
- moving profile planes,
- projection on walls,
- cutting boxes ...



TF3 representations:

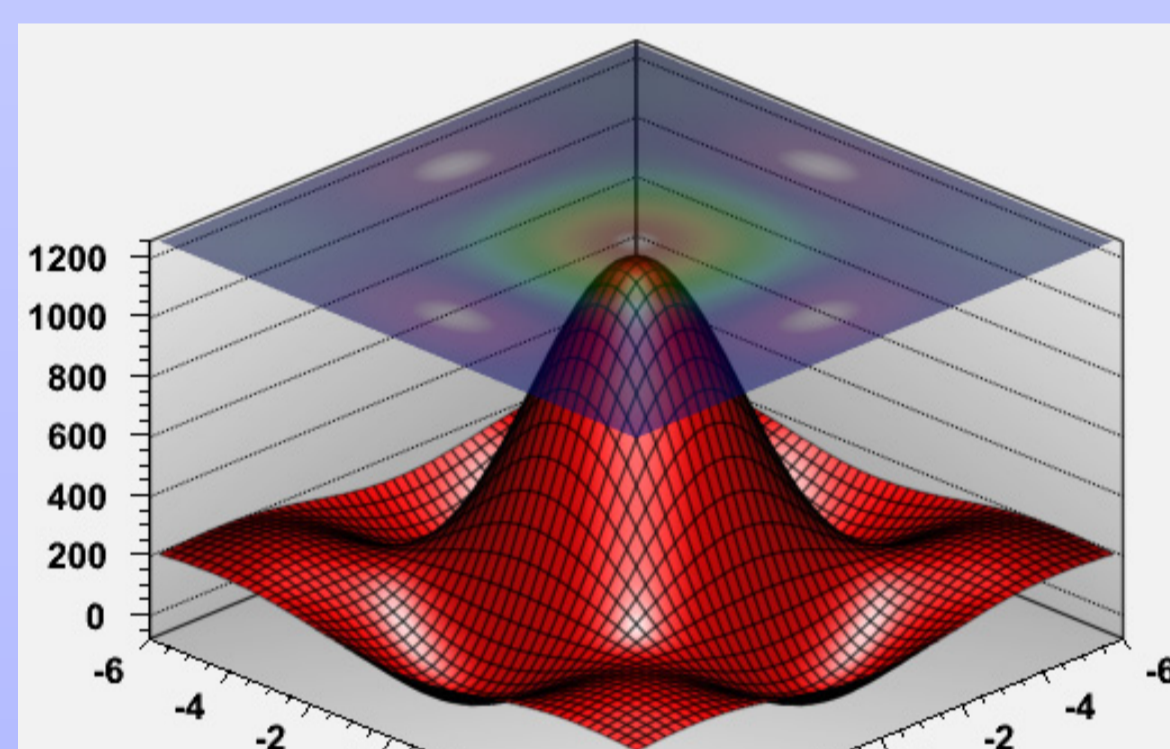
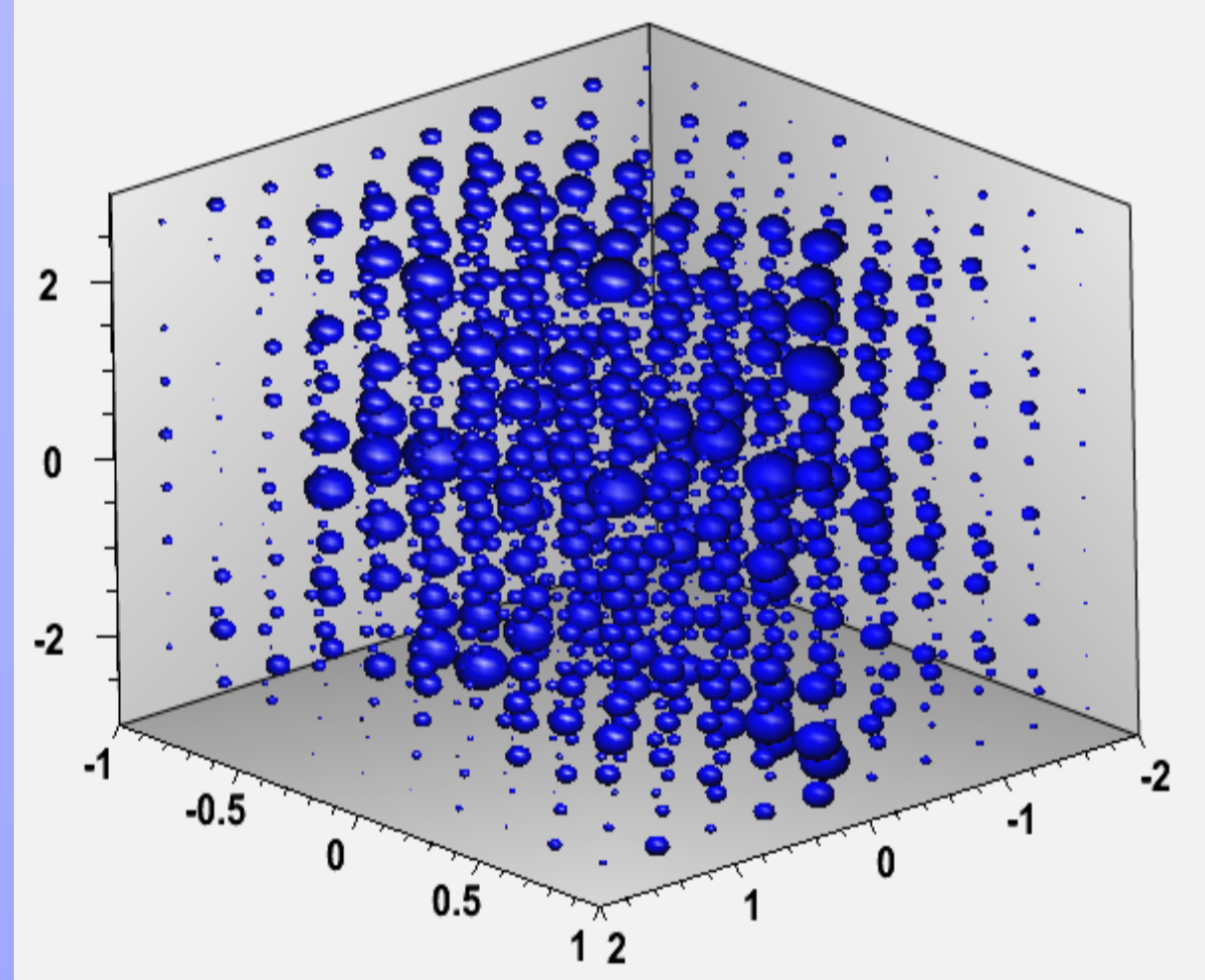
```
TF3 fun3("fun3",
    "sin(x*x+y*y+z*z-36)",
    -2, 2, -2, 2, -2, 2);
fun3.Draw();
```

One can interact with the function representation using, for instance, the cutting box.



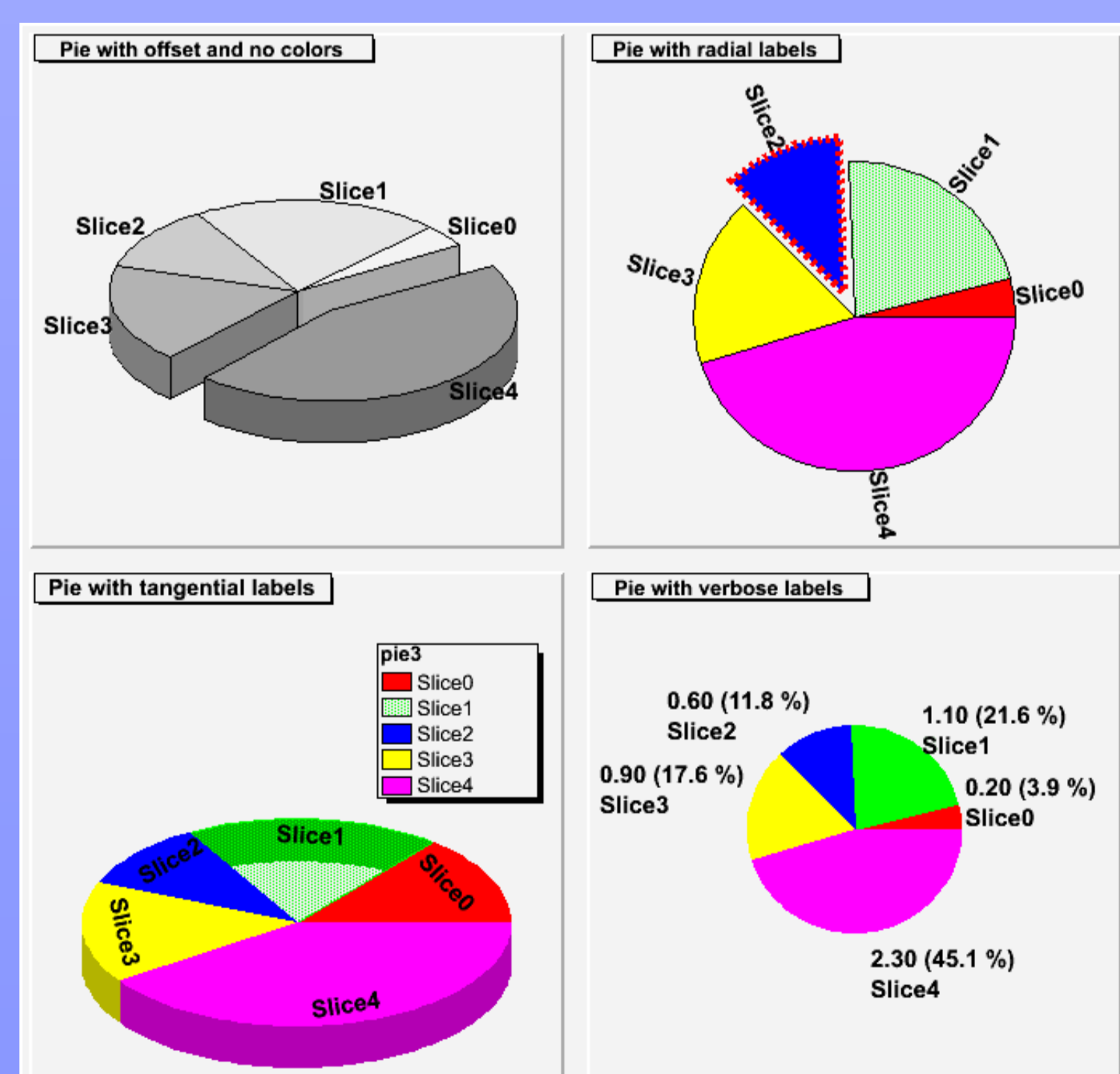
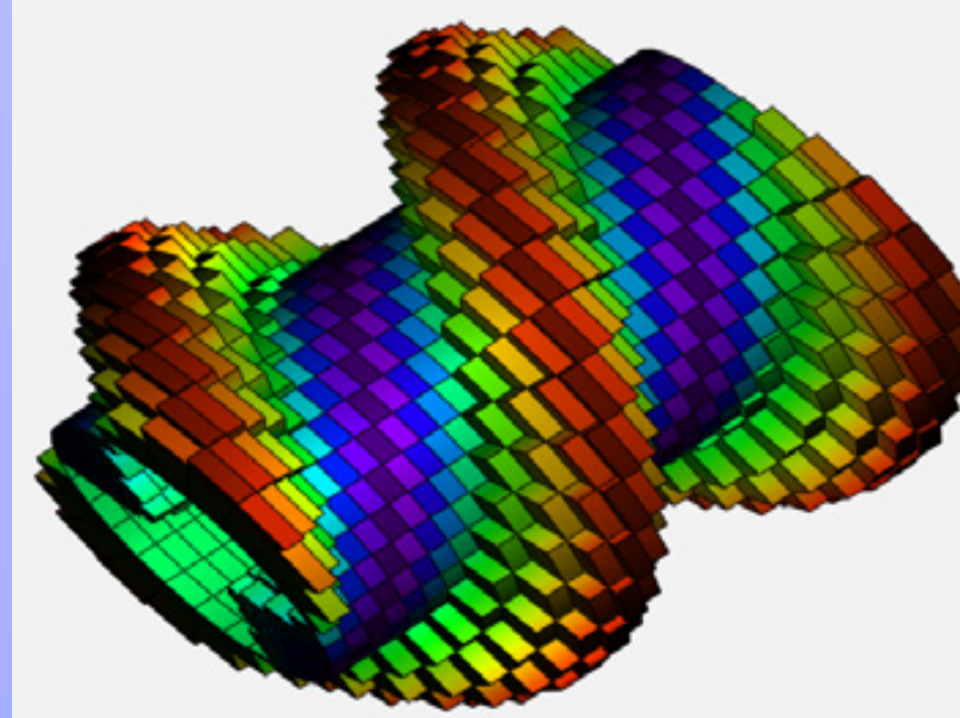
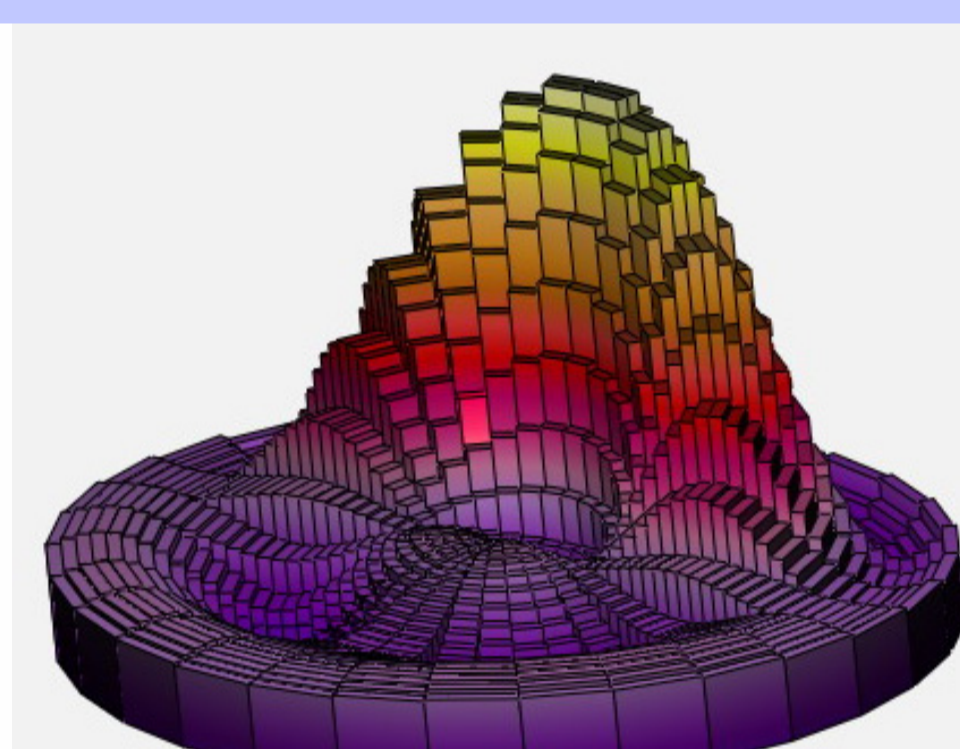
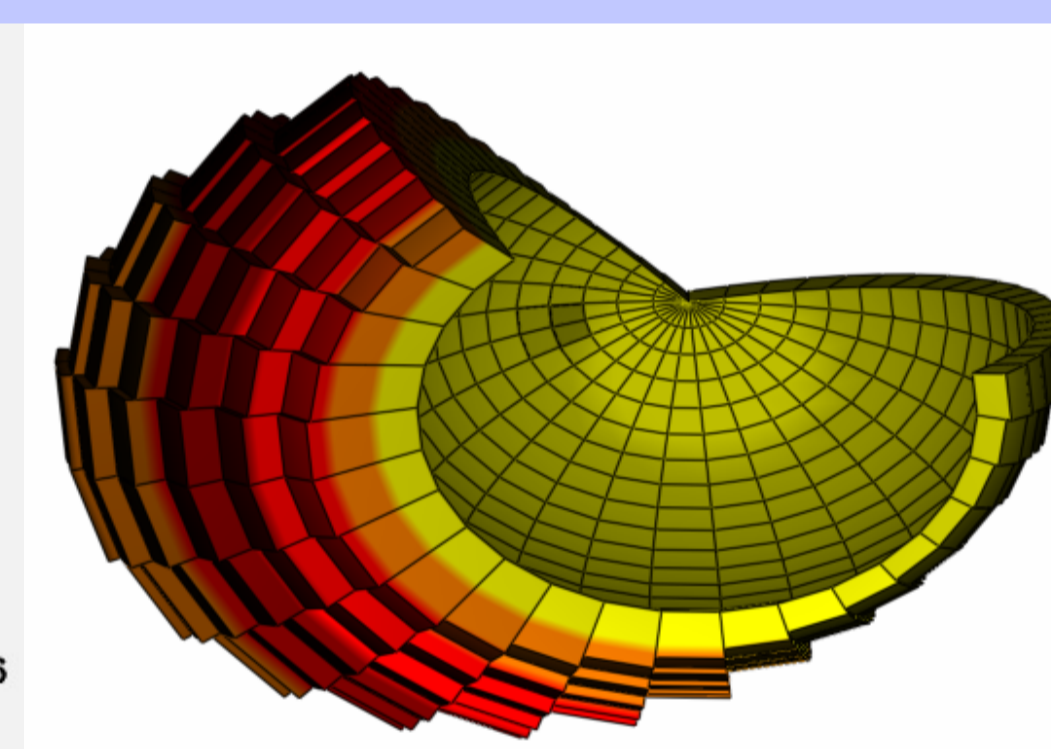
TH3 representations:

3D histograms (TH3) can be drawn using different kinds of box plots (cubes or spheres). A 2D contour plot corresponding to a cutting plane can be drawn in real time.



TH2 representations:

Lego and surface plots can be drawn with several options, projection modes and color palettes. Many extensions have been added compared to the "non-GL" way, in particular in the GUI area.

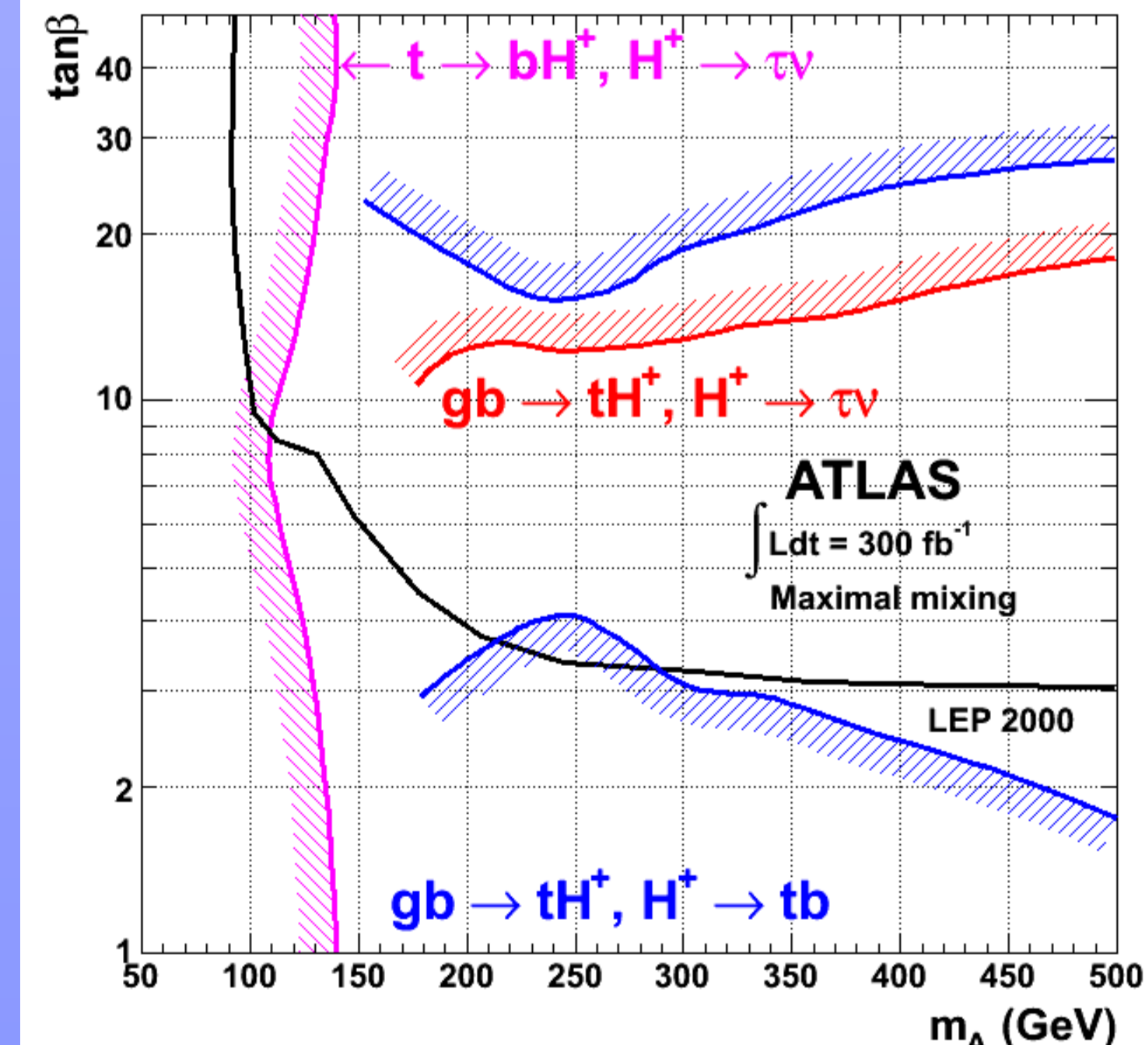
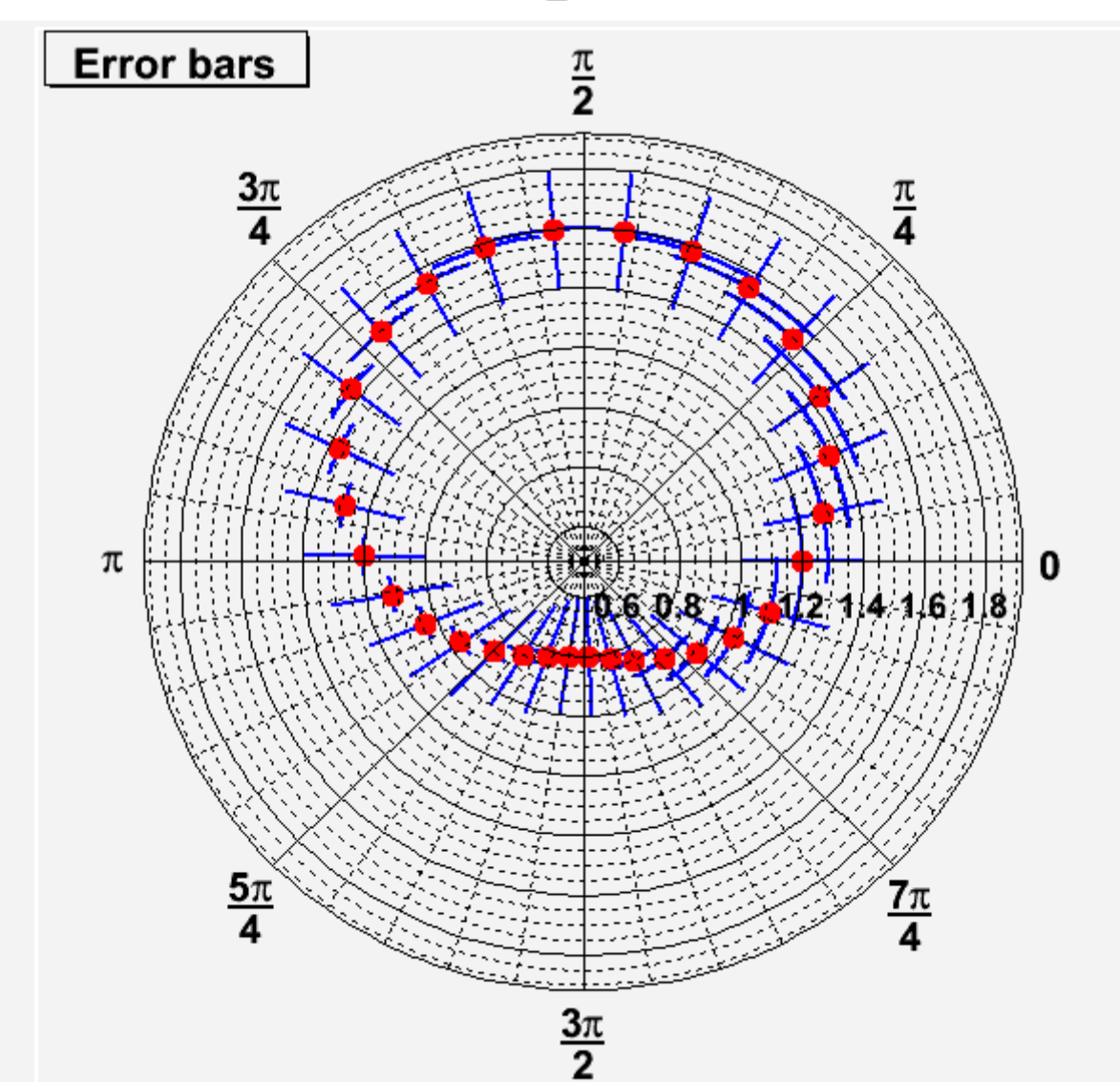
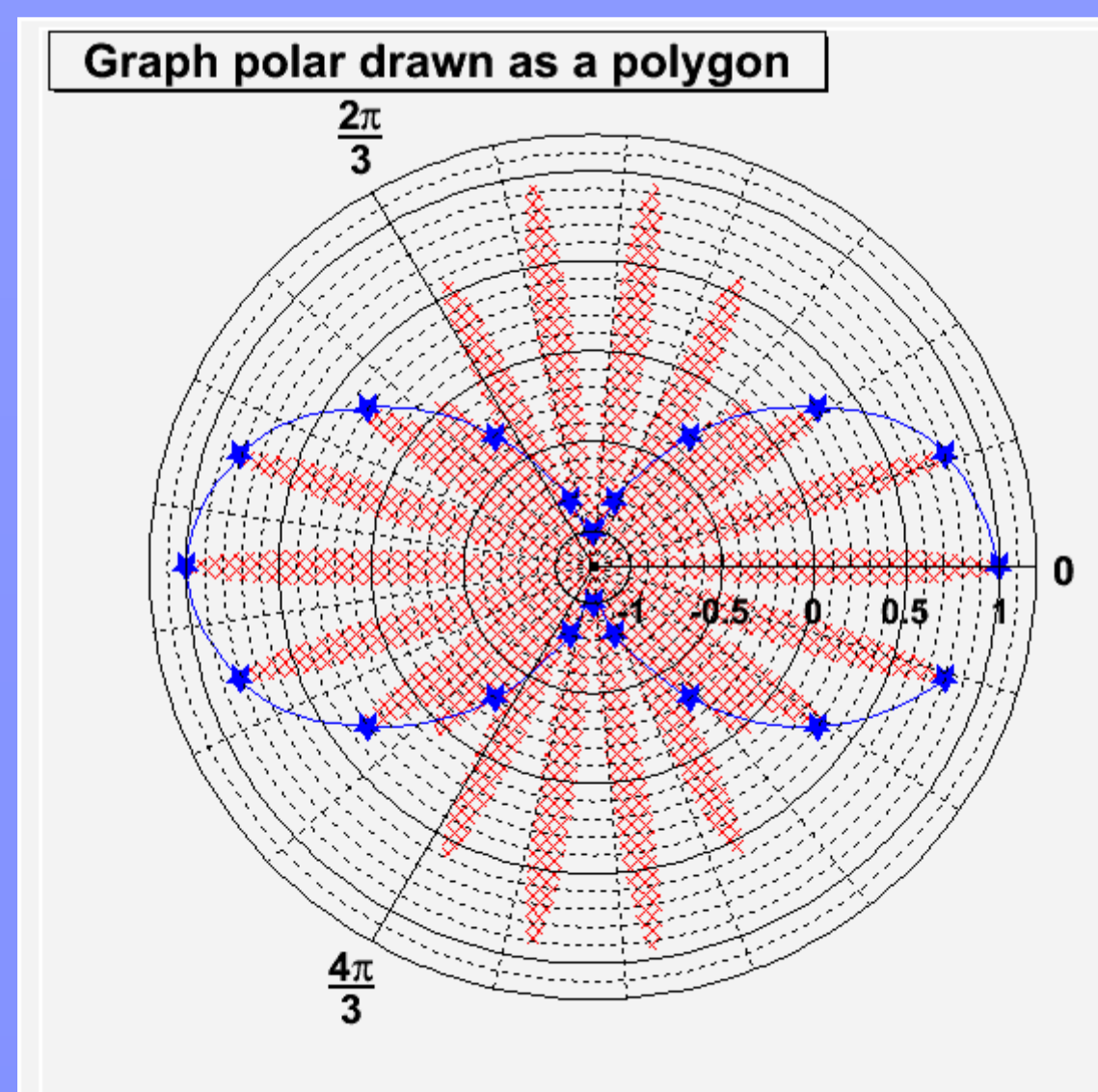
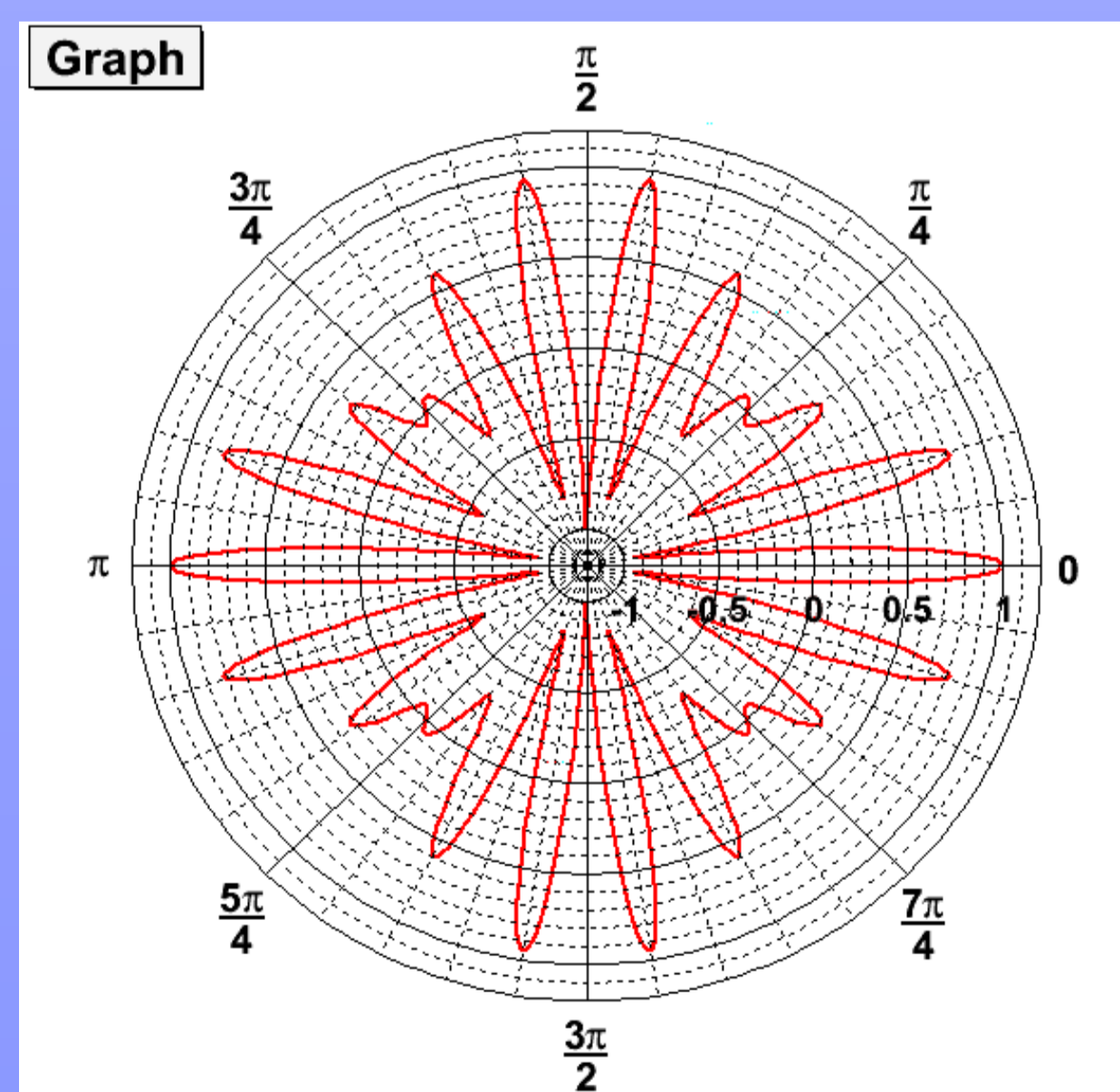


TPie:

The TPie class allows to define and draw pie charts. This class offers various options to draw a pie chart (flat, 3D effect, label format etc ...) and provides a very flexible and intuitive way to manipulate the drawing interactively. This class can also be used to draw TH1 histograms.

TGraphPolar:

TGraphPolar creates a polar graph (including error bars). A TGraphPolar is a TGraphErrors represented in polar coordinates. It uses the class TGraphPolargram to draw the polar axis.



Exclusion graphs:

A TGraph extension allows to draw exclusion graphs. One can choose on which side of the graph the hatches are drawn, the width of the hatched zone, the type of hatches (or patterns) used.