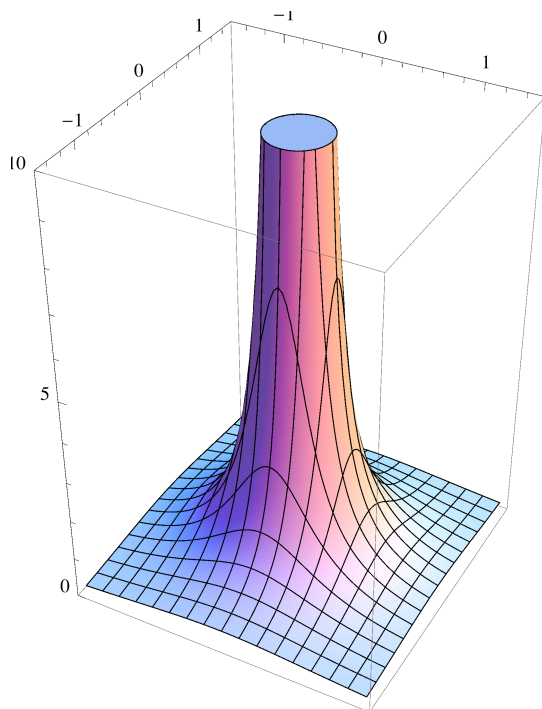# 13.1.3 Graphische Darstellung der Singularitaeten komplexer Funktionen

- **Pol 2. Ordnung, Abb.13.1**

```
Clear[x, y, f, g]; n = 2; rx = 1.5`; gre[x_, y_] = Abs[(x + i y)^-n];
re = Plot3D[gre[x, y], {x, -rx, rx}, {y, -rx, rx}, PlotPoints → 75,
   PlotRange → {0, 10}, BoxRatios → {1, 1, 1.5`}, ImageSize → 250]
```


cp = ContourPlot[gre[x, y], {x, -rx, rx}, {y, -rx, rx}, PlotPoints -> 50, PlotRange -> {0, 10},
ContourShading -> False]

- **Wesentliche Singularitaet 1. Ord. Exp[1/z]. Abb.13.2**

```
Clear[x, y, f, g]; g[x_, y_] = Abs[Exp[ 1/(x + i y) ]];

f[x_, y_] = Which[x < 0 && y < 0, 0, True, g[x, y]];
re = Plot3D[f[x, y], {x, -2, 2}, {y, -π, π}, PlotPoints → 50, ImageSize → 250]
```