

Ingenieurbüro Baumann --- www.leobaumann.de --- Markt 6, 46282 Dorsten
 manuelle Berechnung eines horizontalen Dipols mit Parallele und Phasenverschiebung
 h = Länge, b2 = Höhe über Grund, l = Wellenlänge, bet = Phasenverschiebung

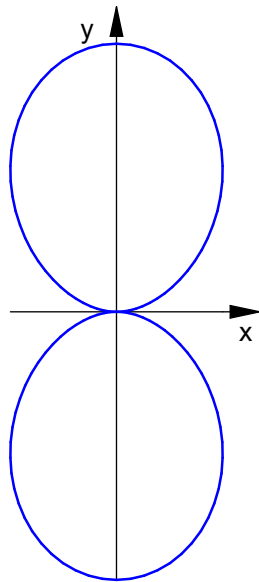
- `reset():digits:=16:wh:=269*PI/180:vw:=60.31*PI/180:h:=1/2:d:=1/4:b2:=1/2:l:=1:bet:=180*PI/180:`

Richtdiagramm im Kugelraum als Funktion der Winkel

- `c:=(the,phil) -> abs((cos(PI*h/l*cos(the)*sin(phil))-cos(PI*h/l))/(sqrt(1-cos(the)^2*sin(phil)^2)))*2*abs(cos(bet/2+PI*d/l*sin(the)*sin(phil)))*2*abs(sin(PI*2*b2/l*cos(phil))):`

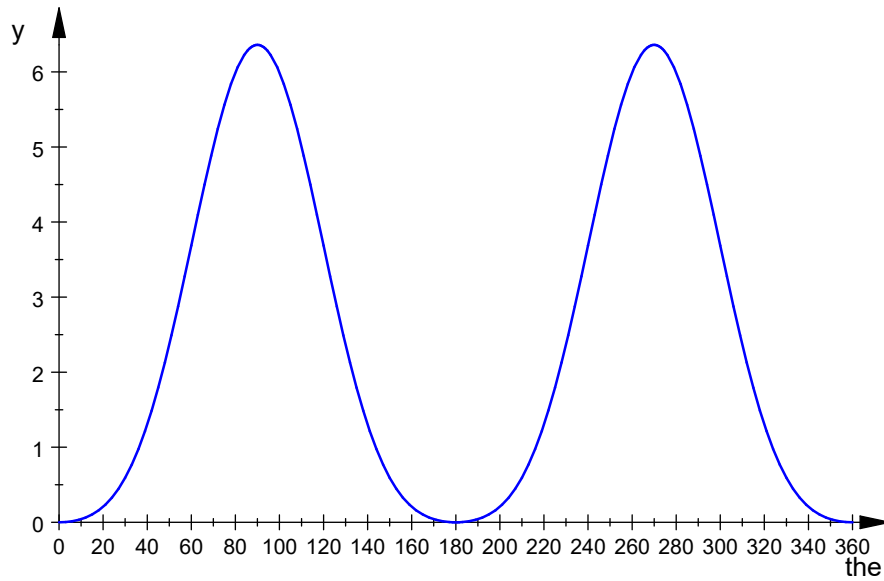
Horizontaldiagramm

- `plot(plot::Polar([c(the,vw),the], the = 0..2*PI, TicksNumber=None, Scaling=Constrained));`



horizontale relative Strahlungsleistungsdichte

- `plotfunc2d(c(the*PI/180,vw)^2, the = 0..360):`



Maximalwert der relativen Strahlungsleistungsdichte , auch in dBi

- ```
ghmax:=0:ghwmax:=0:for m from 7680 to 9600 step 1 do
 gh:=float(c(m*PI/5760,wv)^2);
 if gh>ghmax then
 ghmax:=gh;
 ghwmax:=float(m/32);
 end_if;
end_for:ghmax;float(10*log(10,ghmax)+2.15);ghwmax;
```

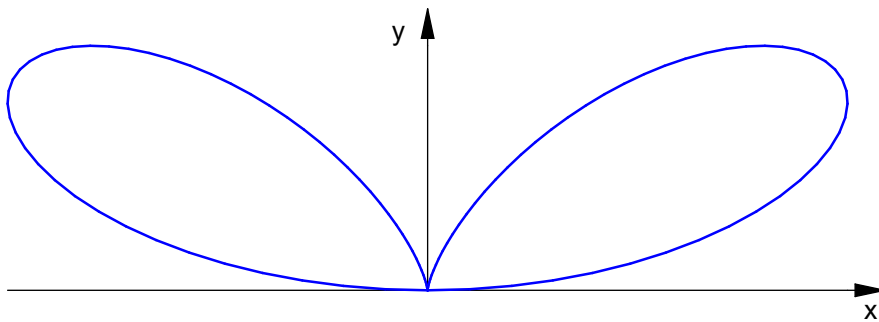
6.360546502

10.18494432

270.0

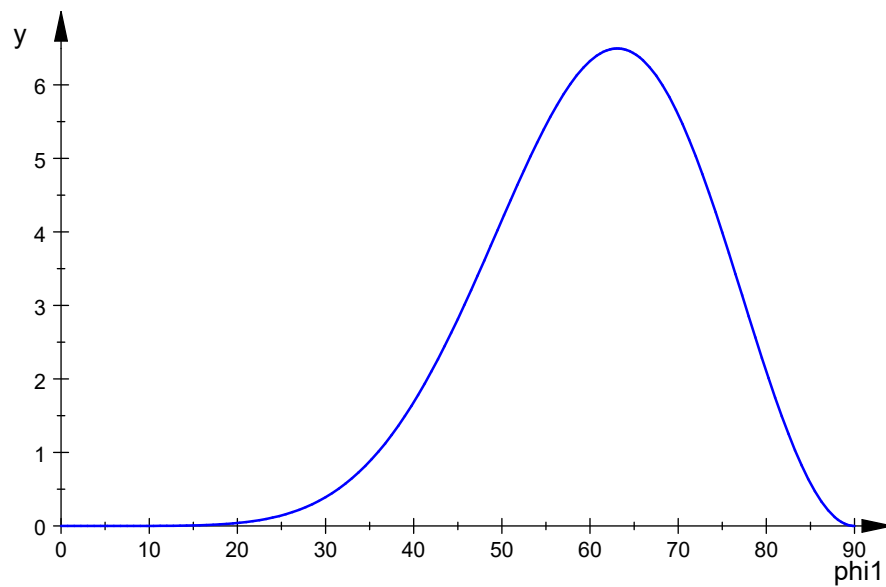
Vertikaldiagramm

- ```
plot(plot::Polar([c(wh,phil),phil+PI/2], phil = -PI/2..PI/2,
  TicksNumber=None, Scaling=Constrained));
```



vertikale relative Strahlungsleistungsdichte

- `plotfunc2d(c(wh,phi1*PI/180)^2, phi1 = 0..90):`



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Maximalwert der relativen Strahlungsleistungsdichte , auch in dBi

- `gvmax:=0:gvwmax:=0:for m from 0 to 2879 step 1 do
gv:=float(c(wh,m*PI/5760)^2);
if gv>gvmax then
gvmax:=gv;
gvwmax:=float(m/32);
end_if;`

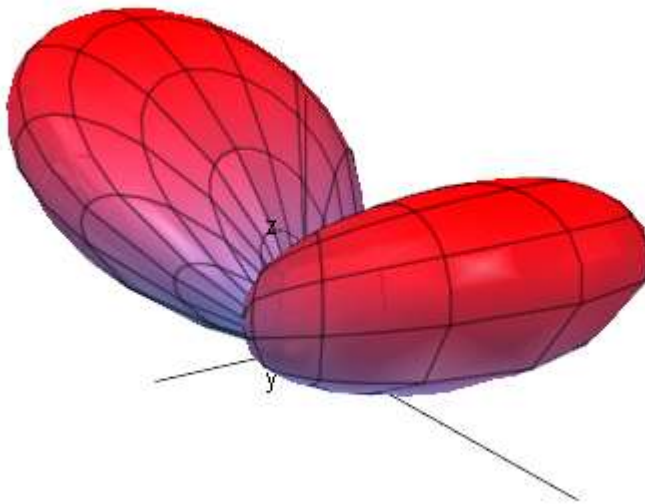
```
end_for:gvmax;float(10*log(10,gvmax)+2.15);gvwmax;
```

6.495550968

10.27615995

63.09375

- delete
the,phil:graph:=plot::Surface([cos(the)*sin(phil)*c(the,phil),sin(the)*sin(phil)*c(the,phil),cos(phil)*c(the,phil)],the=0..2*PI, phil=-PI/2..PI/2,Axes=Origin, TicksNumber=None, Scaling=Constrained, AdaptiveMesh=4):
- plot(graph);



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