Subject: Floating underflow in a plot
Posted by Miguel on Tue, 14 Apr 2015 07:50:03 GMT
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Hi,

I'm trying to plot an implicit function f(x,y)=a by computing the function for many values of x and y and plotting the result.
But when the number of point (x,y) become too large, there is a problem of floating underflow.
Here is my code :

```
-------------------------------------------------------
set_plot, 'ps'
device, filename="Essai",/color, bits_per_pixel=8
loadct,13, /silent
!EXCEPT=2
close,/all
plot,[1,1],xrange=[-30,30],yrange=[-30,100],psym=3
openw,1,"bla.cat"

l=(dindgen(45)+0)/1*!PI/180
d=dindgen(1000)/10.+0
l_n=0
inc_color=0
Ro=8.5
To=220

resultat=dblarr(3,n_elements(l)*n_elements(d))
foreach i,l do begin
  foreach j,d do begin
    R=sqrt(j^2+Ro^2-2*Ro*j*cos(i))
 if (R NE 0.) then begin
    T=To*(1.00767*(R/Ro)^(0.0394)+0.00712)
    V=Ro*sin(i)*((T/R)-(To/Ro))
    resultat(0,l_n)=i
    resultat(1,l_n)=j
    resultat(2,l_n)=V
printf,1,-sin(!PI-i)*j,-cos(!PI-i)*j;,i*180/!PI,j,V
    l_n=l_n+1
 endif
  endforeach
endforeach

k=min(resultat(2,*))
while ( k LE max(resultat(2,*)) ) do begin
ind=where(resultat(2,*) GE k AND resultat(2,*) LE k+0.5)
if (ind(0) NE -1.) then begin
trajectoire=resultat(*,ind)
```

```
 oplot,-sin(!PI-trajectoire(0,*))*trajectoire(1,*),-cos(!PI-t
rajectoire(0,*))*trajectoire(1,*),psym=3,color=fix(inc_color ),NSUM=1
endif
k=k+0.5
inc_color=inc_color+1
if (inc_color EQ 256) then inc_color=0
endwhile
close,1
```

Th bla.cat file contains all the points and when I plot them, it seems fine (except for the last value of l)

What is the problem here =

Thanks
Miguek