Programación Numérica para Geofísica

PNG

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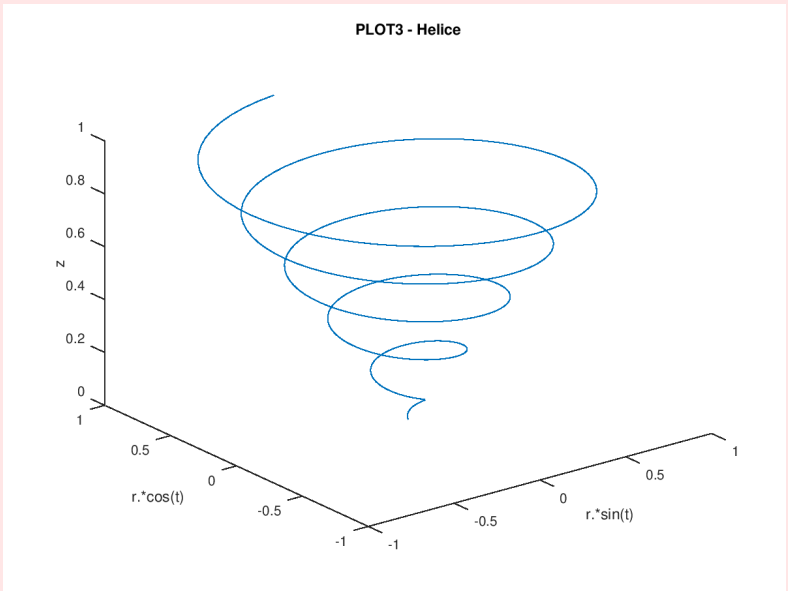
Anuncios

- Dudas, consultas, quejas, alabanzas, ...
- Hoy: Gráficos Avanzados

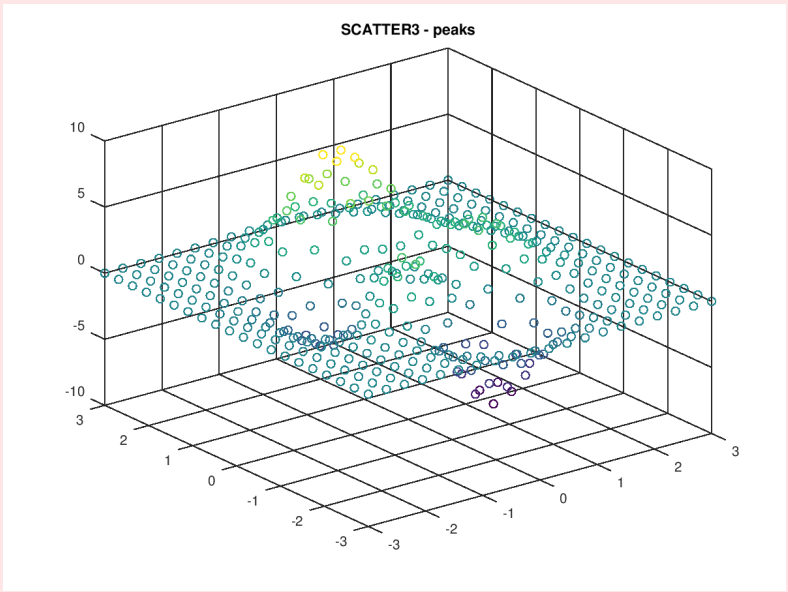
  `https://www.mathworks.com/products/matlab/plot-gallery.html`

PLOT3



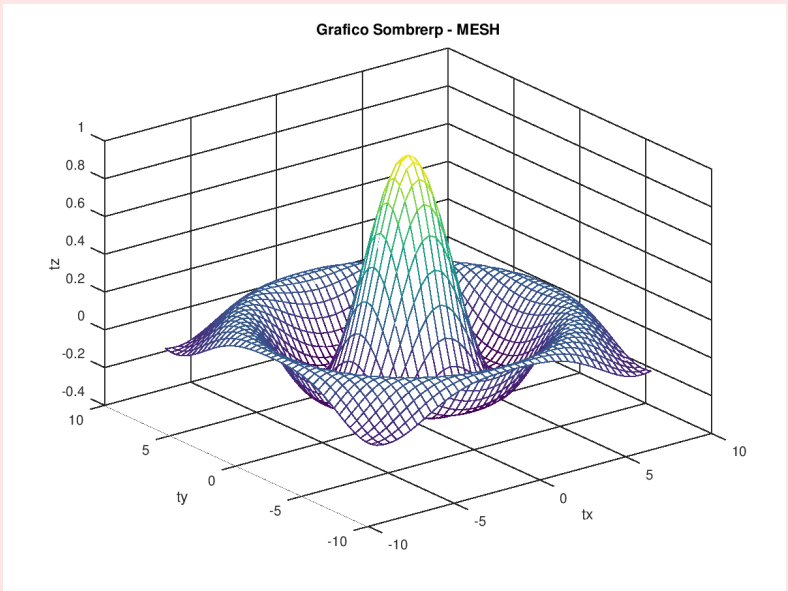

```
t = 0:0.1:10*pi;
r = linspace(0, 1, numel(t));
z = linspace(0, 1, numel(t));
plot3(r.*sin (t), r.*cos(t), z);
xlabel("r.*sin(t)");
ylabel("r.*cos(t)");
zlabel("z");
title("PLOT3 - Helice");
```

SCATTER3



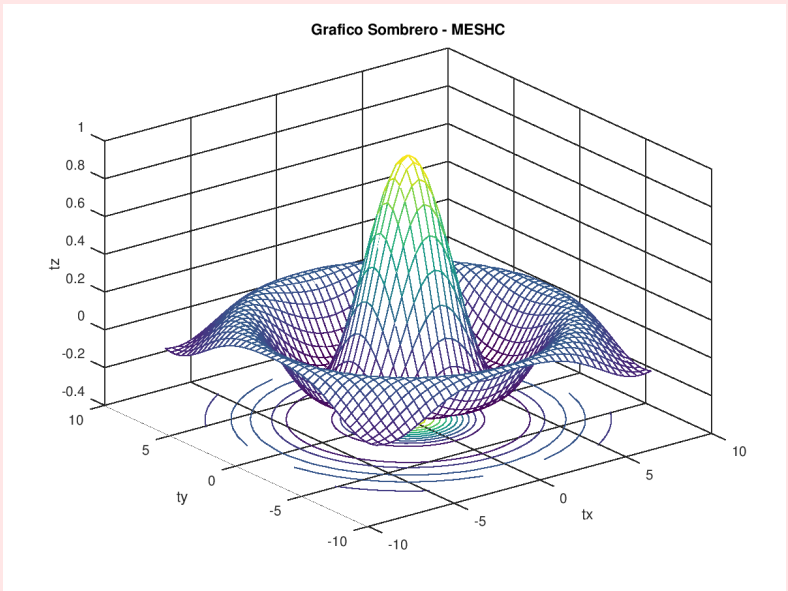

```
[x, y, z] = peaks (20);
scatter3 (x(:),y(:),z(:),[],z(:));
title("SCATTER3 - peaks");
```

MESH



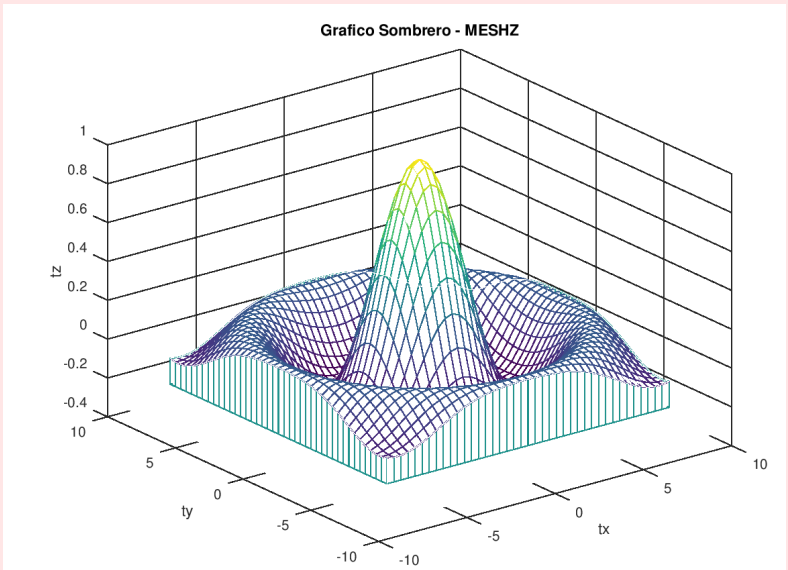

```
tx = ty = linspace(-8, 8, 41)';
[xx, yy] = meshgrid(tx, ty);
r = sqrt(xx.^ 2 + yy.^ 2) + eps;
tz = sin(r)./r;
mesh(tx, ty, tz);
xlabel("tx");
ylabel("ty");
zlabel("tz");
title("Grafico Sombrero - MESH");
```

MESHC



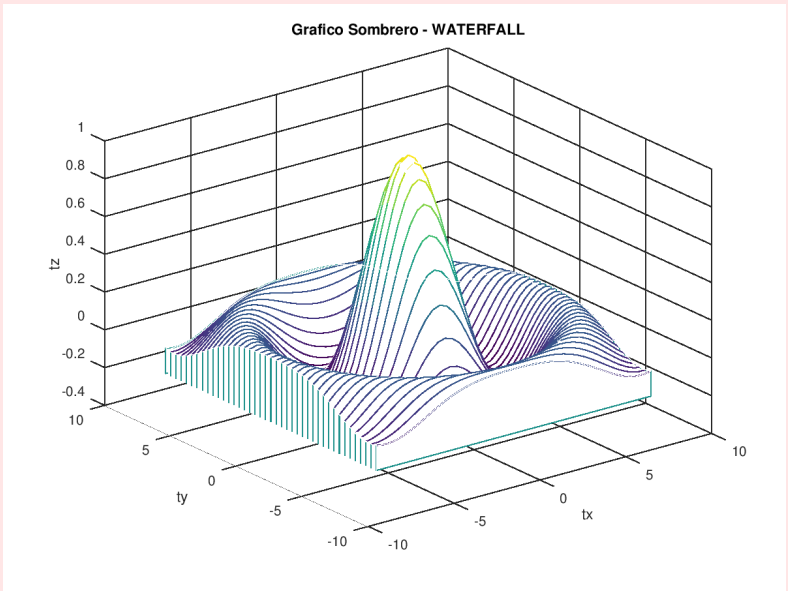

```
tx=ty=linspace(-8, 8, 41)';
[xx, yy]=meshgrid(tx, ty);
r = sqrt(xx.^ 2 + yy.^ 2) + eps;
tz = sin(r)./r;
meshc(tx, ty, tz);
xlabel("tx");
ylabel("ty");
zlabel("tz");
title("Sombrero - MESHC");
```

MESHZ



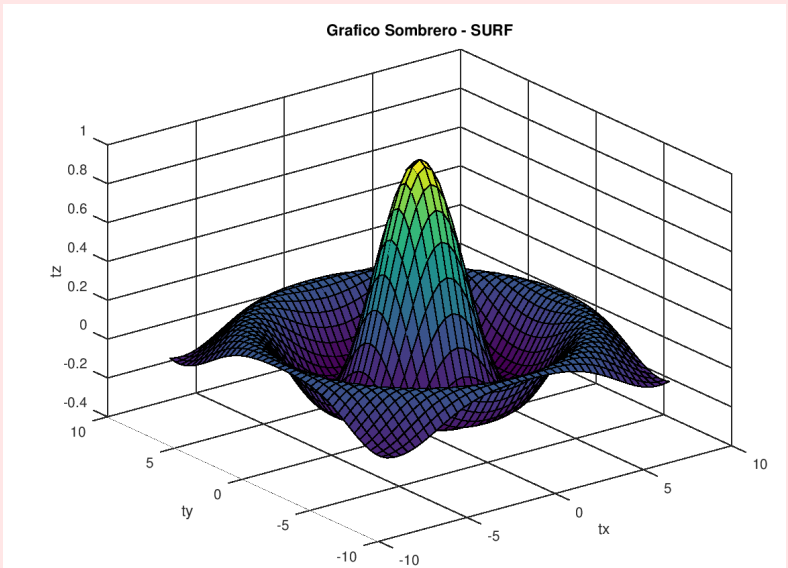

```
tx = ty = linspace(-8, 8, 41)';
[xx, yy] = meshgrid(tx, ty);
r = sqrt(xx.^ 2 + yy.^ 2) + eps;
tz = sin(r)./r;
meshz(tx, ty, tz);
xlabel("tx");
ylabel("ty");
zlabel("tz");
title("Sombrero - MESHZ");
```

WATERFALL



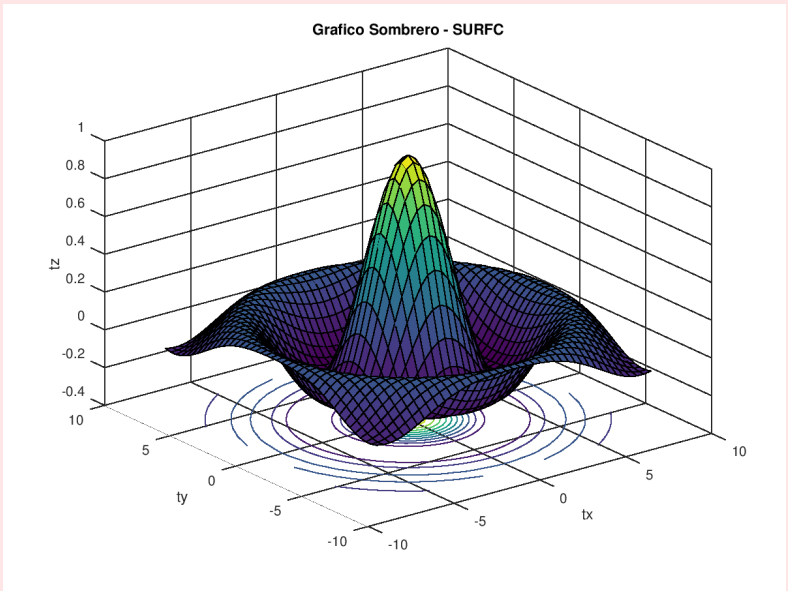

```
tx = ty = linspace(-8, 8, 41)';
[xx, yy] = meshgrid(tx, ty);
r = sqrt(xx.^ 2 + yy.^ 2) + eps;
tz = sin(r)./r;
waterfall(tx, ty, tz);
xlabel("tx");
ylabel("ty");
zlabel("tz");
title("Sombrero - WATERFALL");
```

SURF



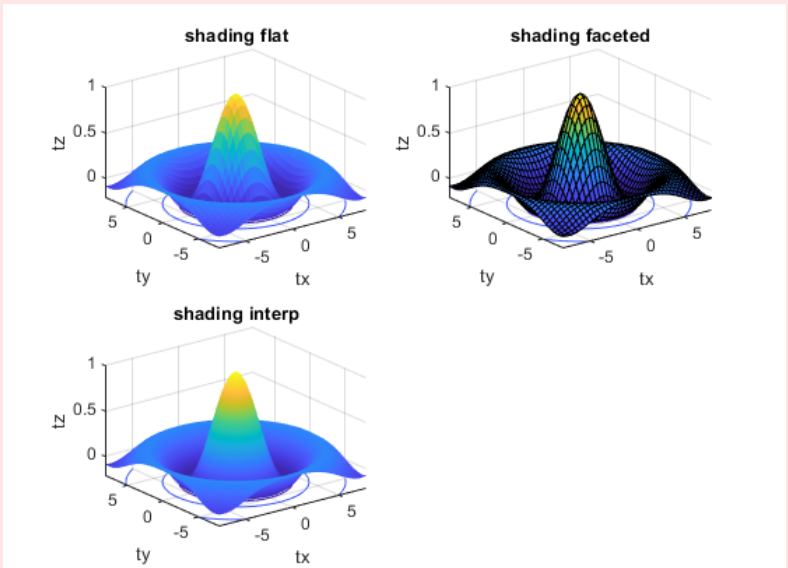

```
tx = ty = linspace(-8, 8, 41)';
[xx, yy] = meshgrid(tx, ty);
r = sqrt(xx.^ 2 + yy.^ 2) + eps;
tz = sin(r)./r;
surf(tx, ty, tz);
xlabel("tx");
ylabel("ty");
zlabel("tz");
title("Sombrero - SURF");
```

SURFC



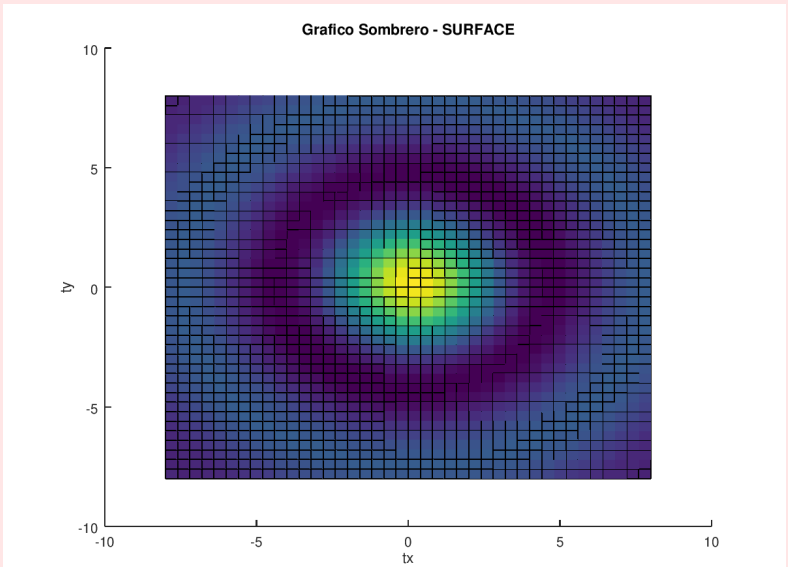

```
tx = ty = linspace(-8, 8, 41)';
[xx, yy] = meshgrid(tx, ty);
r = sqrt(xx.^ 2 + yy.^ 2) + eps;
tz = sin(r)./r;
surfc(tx, ty, tz);
xlabel("tx");
ylabel("ty");
zlabel("tz");
title("Sombrero - SURFC");
```

shading



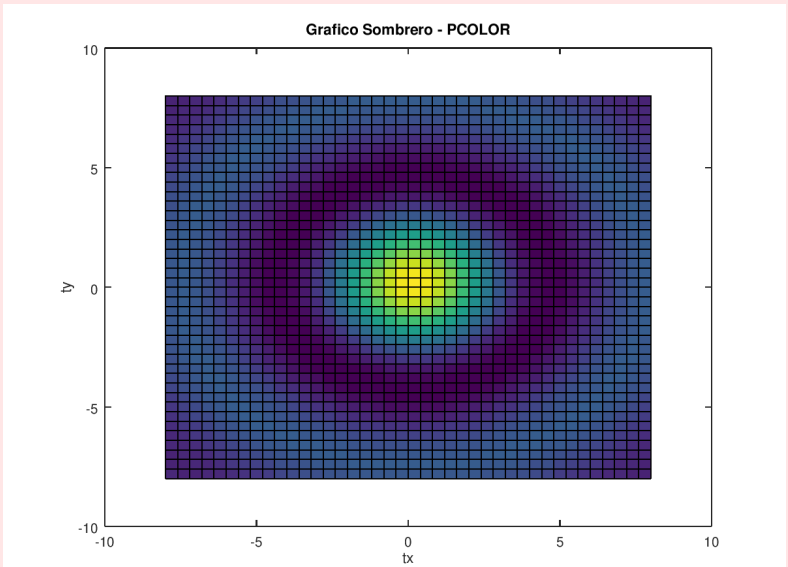

```
tx = ty = linspace(-8, 8, 41)';
[xx, yy] = meshgrid(tx, ty);
r = sqrt(xx.^ 2 + yy.^ 2) + eps;
tz = sin(r)./r;
surfc(tx, ty, tz);
xlabel("tx");
ylabel("ty");
zlabel("tz");
title("shading flat/
                interp/faceted");
shading flat/interp/faceted
```

SURFACE



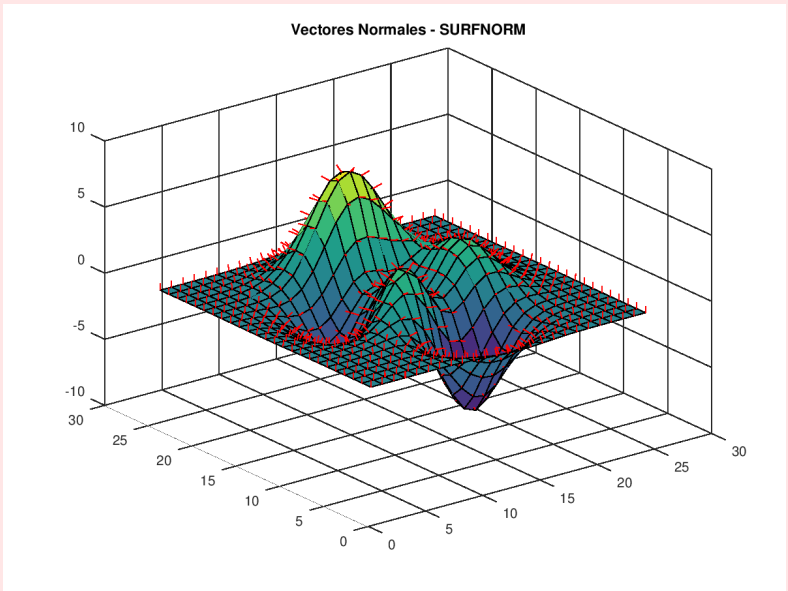

```
tx = ty = linspace(-8, 8, 41)';
[xx, yy] = meshgrid(tx, ty);
r = sqrt(xx.^ 2 + yy.^ 2) + eps;
tz = sin(r)./r;
surface(tx, ty, tz);
xlabel("tx");
ylabel("ty");
zlabel("tz");
title("Sombrero - SURFACE");
```

PCOLOR



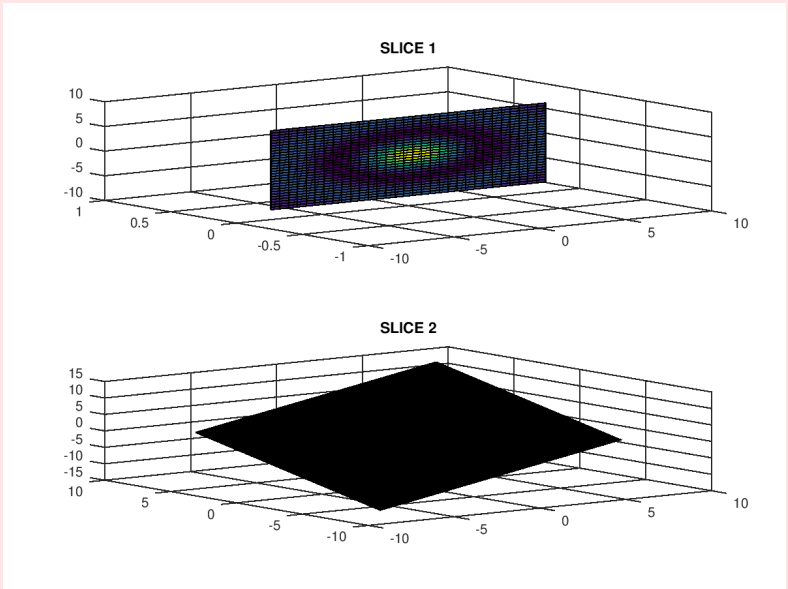

```
tx = ty = linspace(-8, 8, 41)';
[xx, yy] = meshgrid(tx, ty);
r = sqrt(xx.^ 2 + yy.^ 2) + eps;
tz = sin(r)./r;
pcolor(tx, ty, tz);
xlabel("tx");
ylabel("ty");
zlabel("tz");
title("Sombrero-PCOLOR");
```

SURFNORM



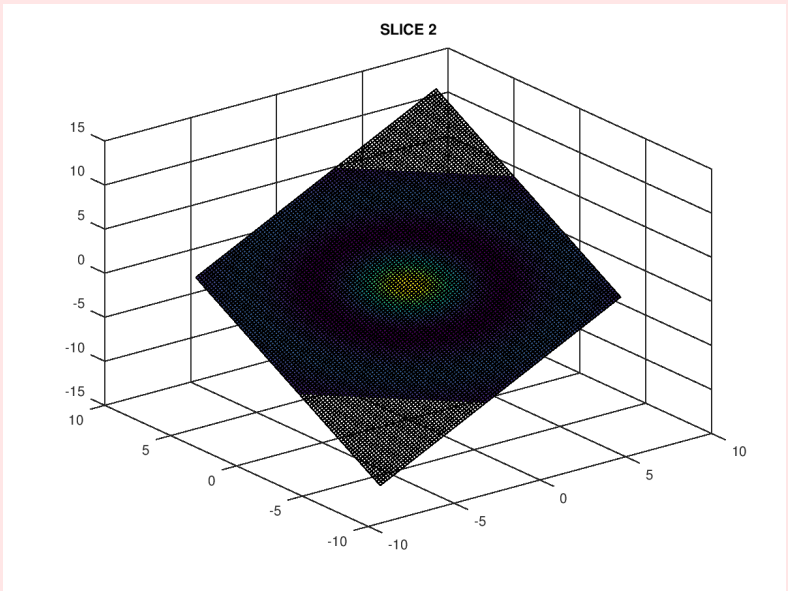

```
surfnorm (peaks (25));
title("Vectores Normales-SURFNORM");
```

SLICE 1



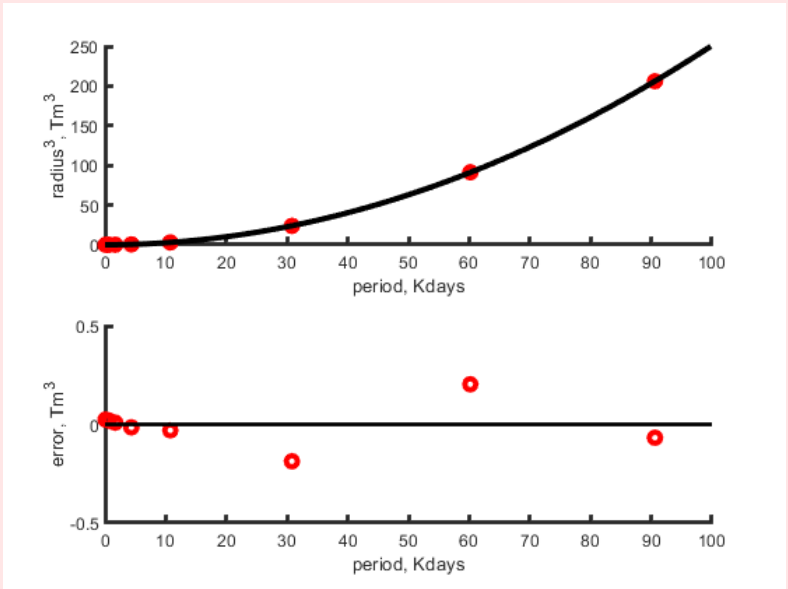

```
subplot(2,1,1)
[x,y,z]=meshgrid(linspace(-8,8,32));
v=sin(sqrt(x.^2 + y.^2 + z.^2)) ...
  ./ (sqrt(x.^2+y.^2+z.^2));
slice (x,y,z,v,[],0,[]);
title("SLICE 1");

subplot(2,1,2)
[xi,yi]=meshgrid(linspace(-7,7));
zi = xi + yi;
slice (x, y, z, v, xi, yi, zi);
title("SLICE 2");
```

SLICE 2




```
[xi, yi]=meshgrid(linspace(-7,7));
zi = xi + yi;
slice (x, y, z, v, xi, yi, zi);
title("SLICE 2");
```

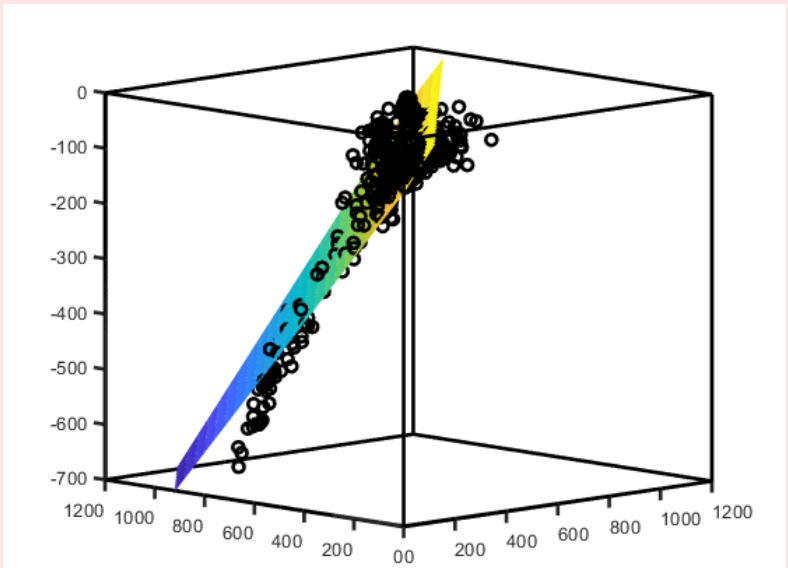
3ra Ley de Kepler



- Periodo^2 = Radio^3

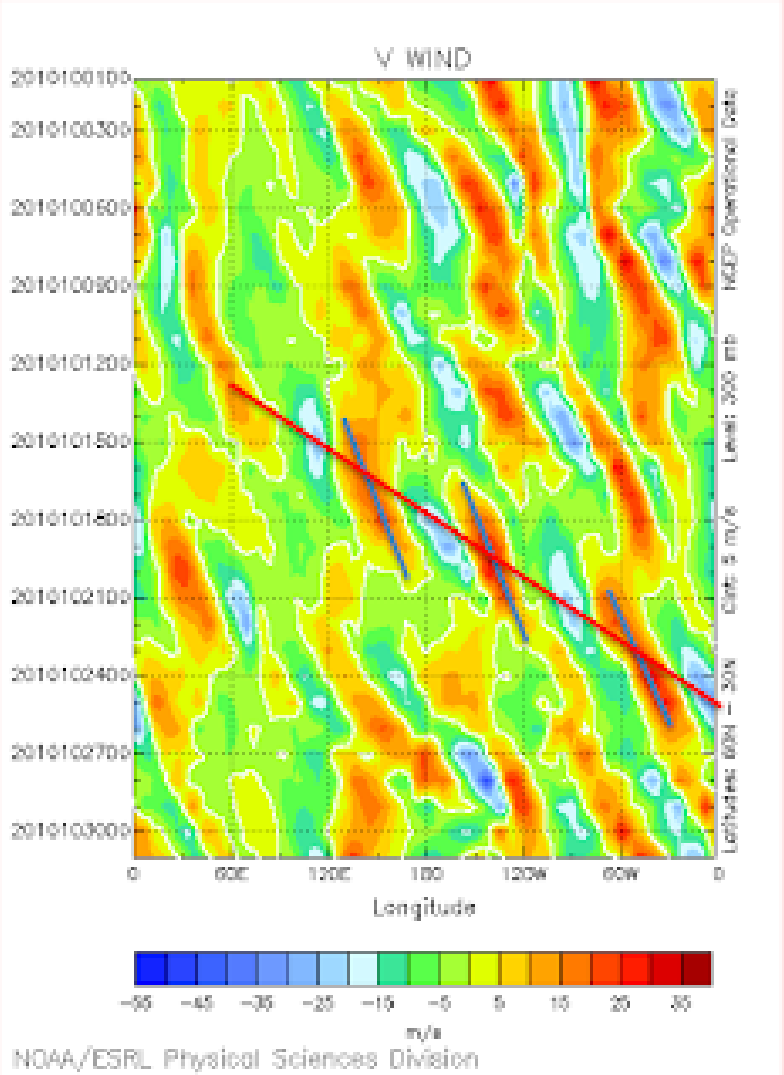
```
subplot(2,1,1);
set(gca,'LineWidth',2);
hold on; axis([0, 100, 0, 250]');
plot(z,dobs,'ro','LineWidth',3);
plot(zeval,deval,'k-'
    ,'LineWidth',3);
xlabel('period, Kdays');
ylabel('radius^3, Tm^3');

subplot(2,1,2);
set(gca,'LineWidth',2);
hold on; axis([0, 100, -.5, .5]');
plot(z,e,'ro','LineWidth',3);
plot( [0, 100], [0, 0], 'k-'
    ,'LineWidth',2);
xlabel('period, Kdays');
ylabel('error, Tm^3');
```

Is. Kuriles - Placa

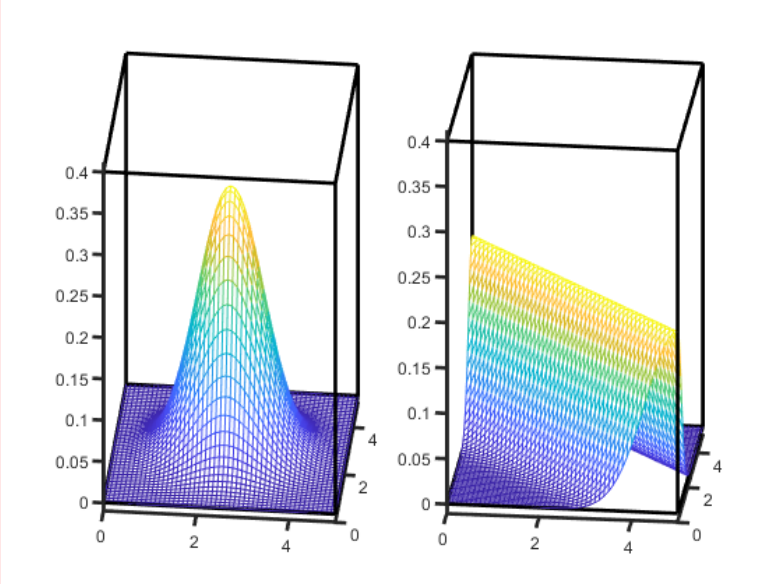


- `plot3(x,y,dobs,'ko' ,'LineWidth',2);`
- `mesh(X,Y,Z);`

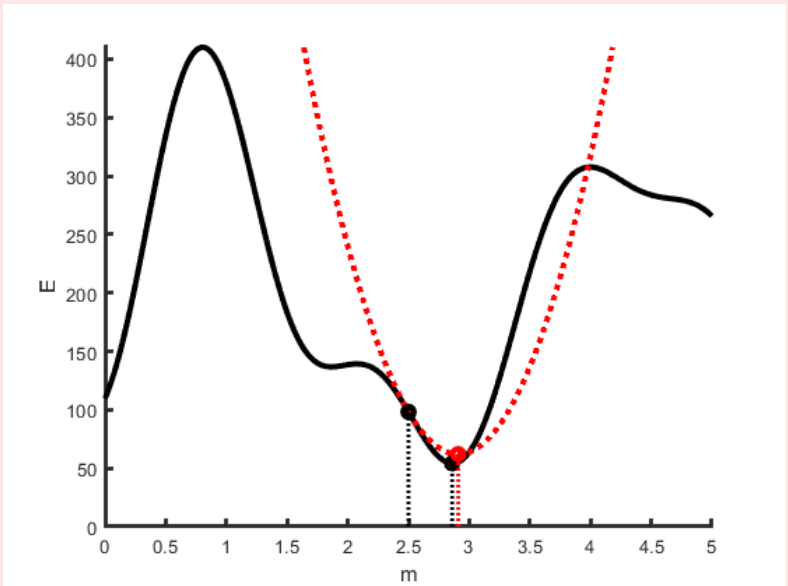
Hovmüller



Distribución Probabilidad



Mínimo



Máximo