Matlab. Част III. Графики

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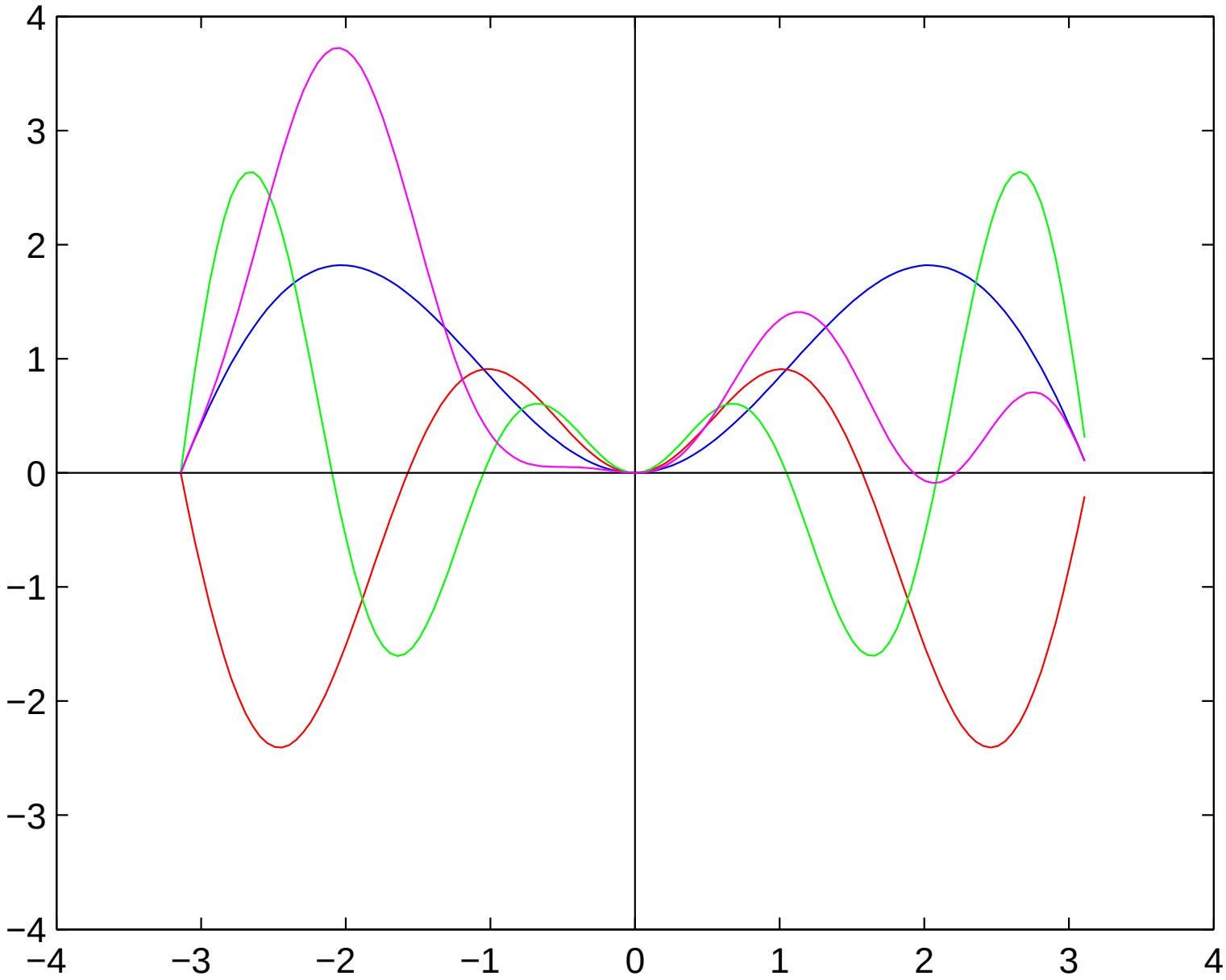
Най-прости 2D графики

```
ezplot('(x-1)^2+1');   ezplot('(x-1)^2+1',[-5,7]);

ezplot(' 9*x^2 - 4*y^ 2 - 36 '); hold on;
ezplot(' 9*x^ 2 - 4*y^ 2 ');

x=-pi:.05:pi; plot(x, x.*sin(x)); hold on;
plot(x, x.*sin(2*x),'r'); plot(x, x.*sin(3*x),'g');
plot([-4 4],[0 0],'black'); plot([0 0],[-4 4],'k');
plot(x,
x.*(sin(x)+x.*sin(2*x)./2+x.*sin(3*x)./3),'m');

help plot;      plot(1:20, rand(1,20), '-.g^');
```


4
3
2
1
0
−1
−2
−3
−4
−4
−3
−2
−1
0
1
2
3
4

```
f=inline('2*x.^ 3 - 3*x+1'); x=-2:.1:3; plot(x, f(x));

bar(rand(1,50));      bar(randn(1,50))

x=-4:0.1:4; hist(randn(1,1000),x)
hist(randn(1,1000),100);

x=[1 3 0.5 2.5 2]; explode= [0 1 0 0 0];
pie(x,explode); colormap jet

W=[45 90 90 45 360 335 360 270 335 270 335
335]*pi/180;      rose(W);
hline=findobj(gca,'Type','line');
set(hline,'LineWidth',1.5)

Z = peaks;      plot(Z)
```

3D графики

x=[1 3 0.5 2.5 2]; explode= [0 1 0 0 0];
pie3(x,explode); colormap hsv

syms x y; f=cos(x)+2*x^3; g=log(abs(y));
ezsurf(f*g); ezsurf(f*g,[-15 15 -5 5]);

ezsurf('x^2/5-y^2',[-10 10 -5 5]);

[X Y Z]=peaks(30); **surf**(X,Y,Z); surf(Z)

[X Y Z]=**ellipsoid**(0,0,0,5.9,3.25,3.25,30);
surfl(X,Y,Z); shading interp;
colormap copper; axis equal

3D графики

mesh(X,Y,Z); **meshc**(X,Y,Z); **surfc**(Y);

plot3(sin(t),cos(t),t); grid on;

ezplot3('sin(2*t)','cos(t)','t',[0,8*pi]);

f = inline('x.*sin(x.*y)','x','y');
[X,Y] = **meshgrid**(0:.1:5, pi:.01*pi:2*pi); Z=f(X,Y);
mesh(X,Y,Z); surf(X,Y,Z); ezsurf(f); size(X);