

Kapitola 2.1 Elipsoid

```
[ > restart;  
[ > plotsetup(inline,plotoptions=`portrait,noborder,shrinkby=0`);
```

Trojosý elipsoid

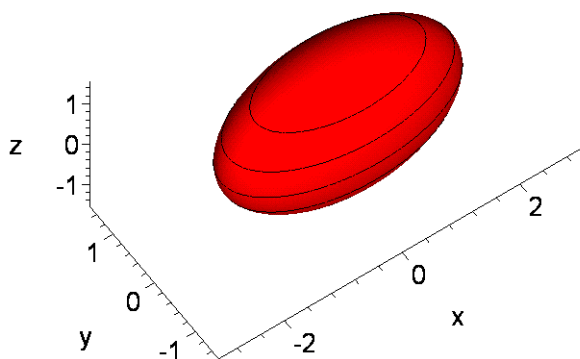
```
[ > Elips1:=x^2/4+y^2+z^2/2-1=0;
```

$$Elips1 := \frac{x^2}{4} + y^2 + \frac{z^2}{2} - 1 = 0$$

```
[ > kv:=Elips1:
```

```
[ > kvg:=plots[implicitplot3d](lhs(kv),x=-3..3,y=-1.5..1.5,z=-1.5..1.5,axes=frame,color=red,style=patchcontour,grid=[50,50,50],contours=10,light=[100,5,1,1,1],tickmarks=[3,3,3],orientation=[52,63],scaling=constrained,contours=7):
```

```
[ > plots[display](kvg,axes=frame,scaling=constrained,orientation=[-125,34]);
```



Rotační elipsoid - zploštělý

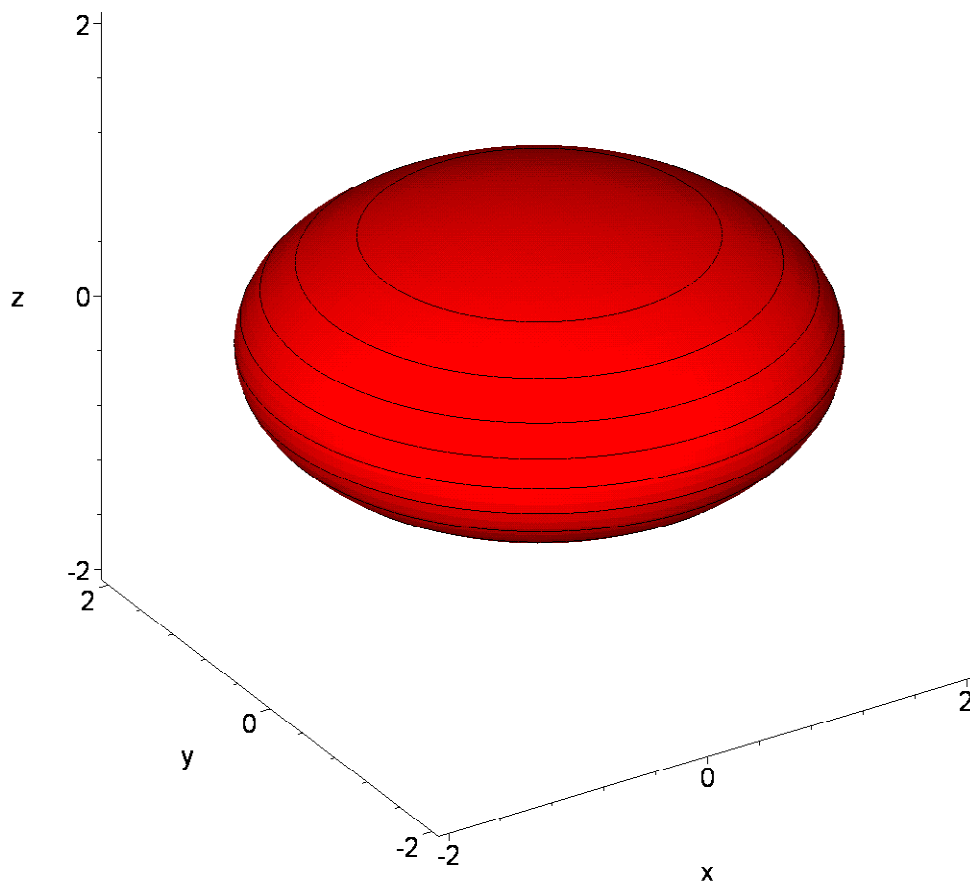
```
[ > Elips2:=x^2/4+y^2/4+z^2/1-1=0;
```

$$Elips2 := \frac{x^2}{4} + \frac{y^2}{4} + z^2 - 1 = 0$$

```

[ > kv:=Elips2:
[ > kvg:=plots[implicitplot3d](lhs(kv),x=-2..2,y=-2..2,z=-2..2,axes=
frame,color=red,style=patchcontour,grid=[50,50,50],contours=10,light=[90,-5,1,1,1],tickmarks=[3,3,3],orientation=[52,63],scaling=constrained,contours=12):
[ > plots[display](kvg,axes=frame,scaling=constrained,orientation=[-122,62]);

```



Rotační elipsoid - vejčitý

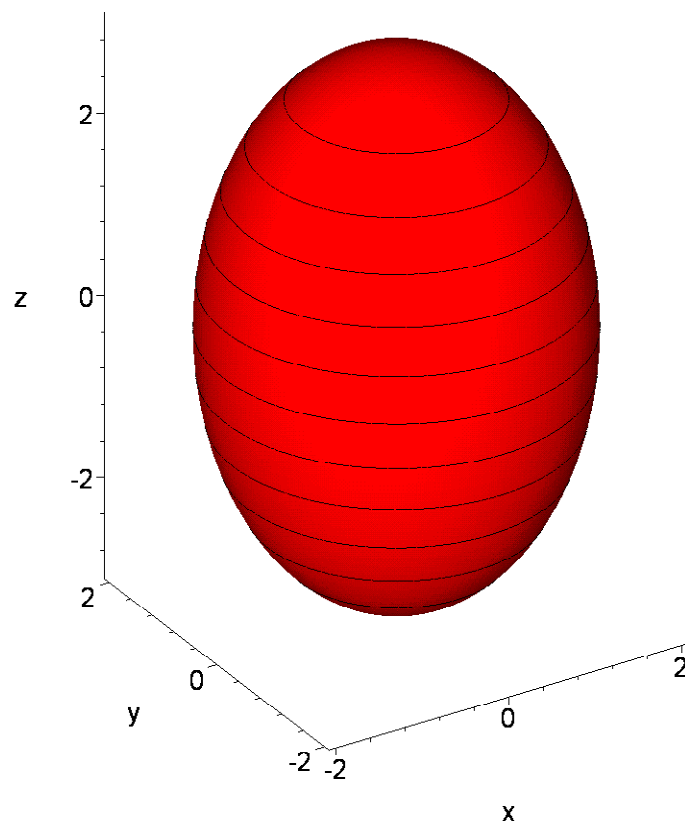
```

[ > Elips3:=x^2/4+y^2/4+z^2/9-1=0;
[ > kv:=Elips3:
[ > kvg:=plots[implicitplot3d](lhs(kv),x=-2..2,y=-2..2,z=-3..3,axes=

```

$$Elips3 := \frac{x^2}{4} + \frac{y^2}{4} + \frac{z^2}{9} - 1 = 0$$

```
frame,color=red,style=patchcontour,grid=[50,50,50],contours=10,light=[90,-5,1,1,1],tickmarks=[3,3,3],orientation=[52,63],scaling=constrained):  
> plots[display](kvg,axes=frame,scaling=constrained,orientation=[-122,62]);
```



```
[ >
```