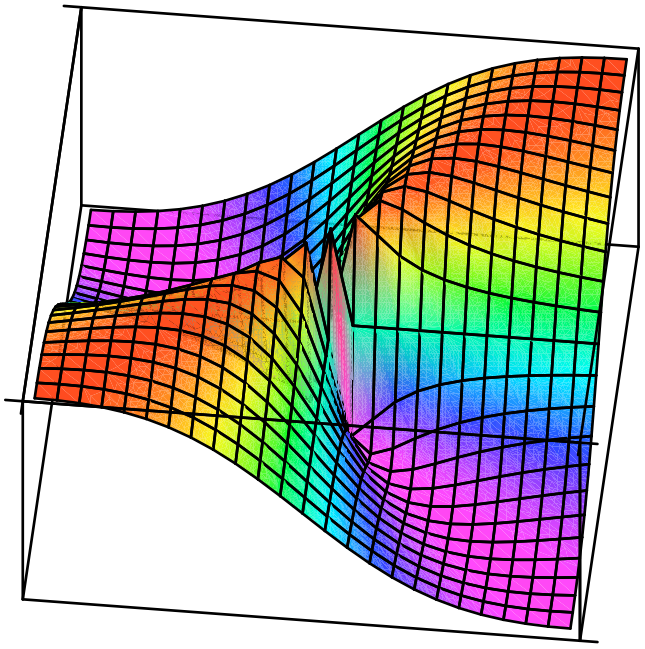
```
> plotit := proc()
> plot3d( [x,y,f], x=-1..1, y=-1..1, scaling=constrained,
> axes=boxed, tickmarks=[[],[],[]], shading=zhue )
> end proc:
```

Unstetige aber partiell differenzierbare Funktion:

```
> f := x*y/(x^2+y^2); plotit();
```

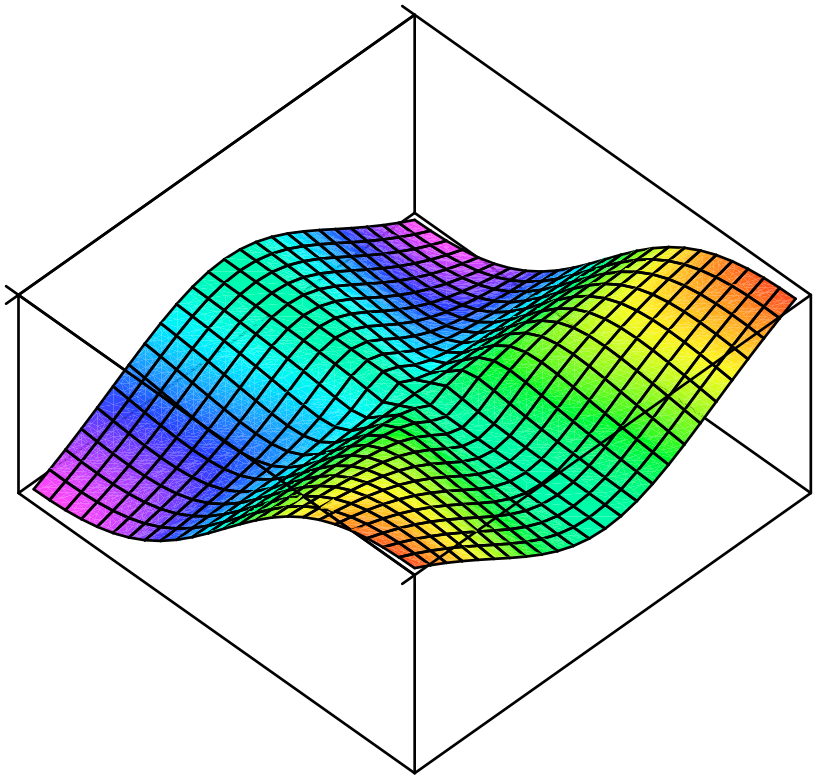
$$f := \frac{x\,y}{x^2+y^2}$$



Stetige und partiell, aber nicht total differenzierbare Funktion:

```
> f := x^2*y/(x^2+y^2); plotit();
```

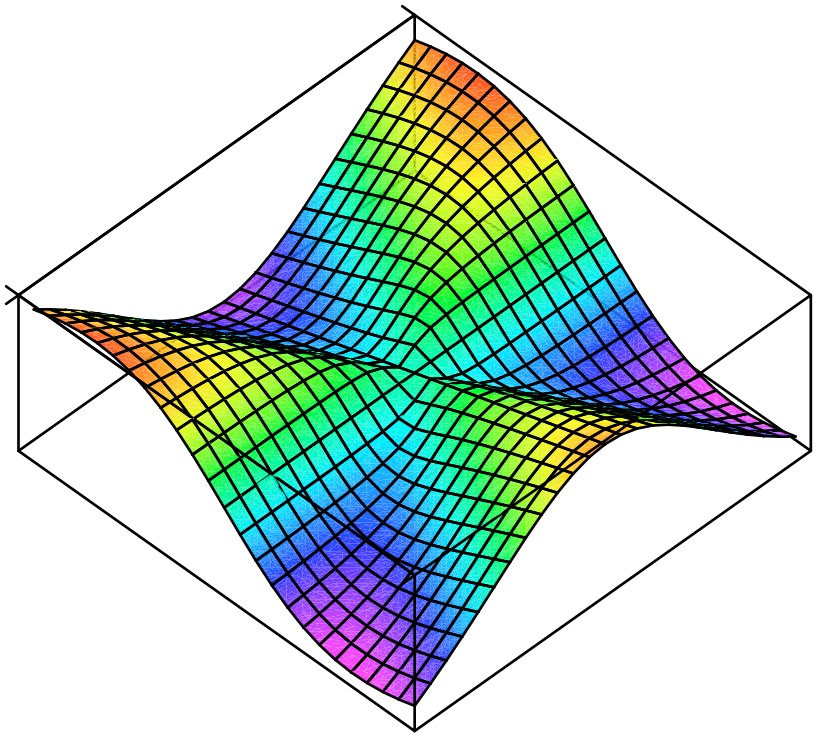
$$f := \frac{x^2 y}{x^2+y^2}$$



Stetige und partiell, aber nicht total differenzierbare Funktion:

```
> f := y*(y^2-3*x^2)/(3*(x^2+y^2)); plotit();
```

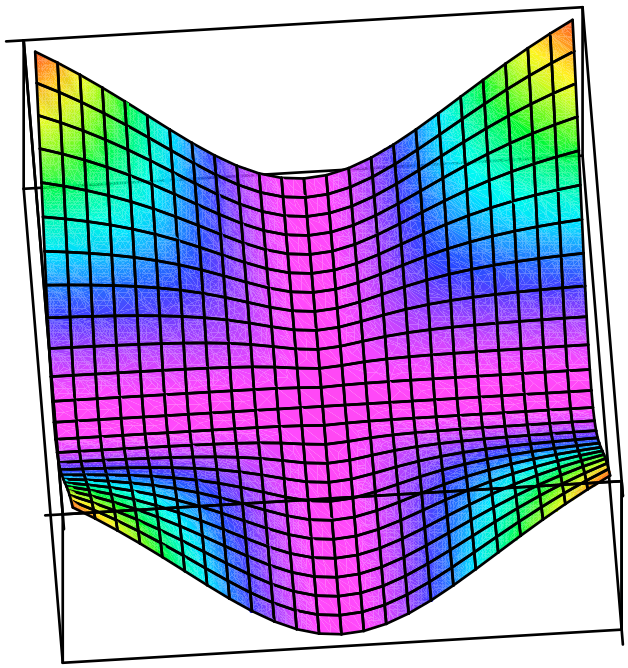
$$f := \frac{y\left(y^2-3x^2\right)}{3x^2+3y^2}$$



Total differenzierbare Funktion:

```
> f := 2*x^2*y^2/(x^2+y^2); plotit();
```

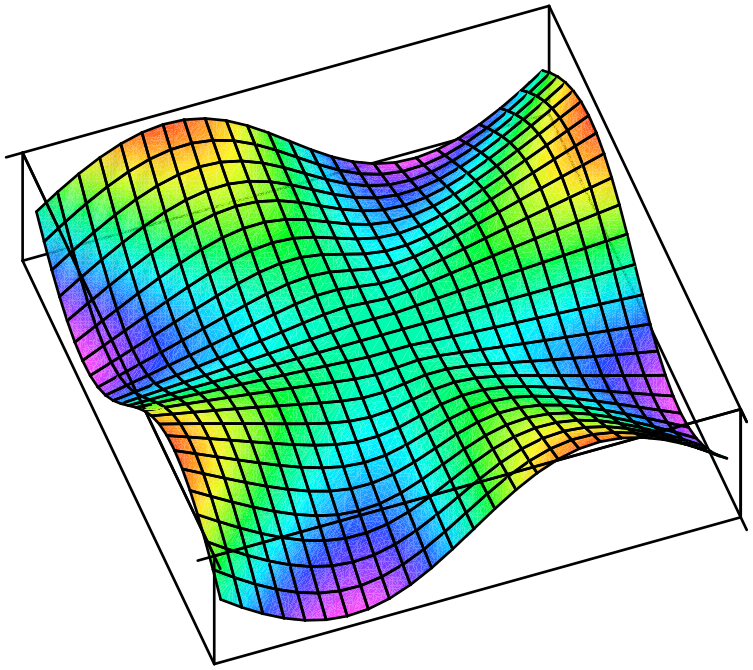
$$f := \frac{2\,x^2\,y^2}{x^2+y^2}$$



Total differenzierbare Funktion:

```
> f := x*y*(x^2-y^2)/(x^2+y^2); plotit();
```

$$f := \frac{x\,y\,\left(x^2-y^2\right)}{x^2+y^2}$$



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