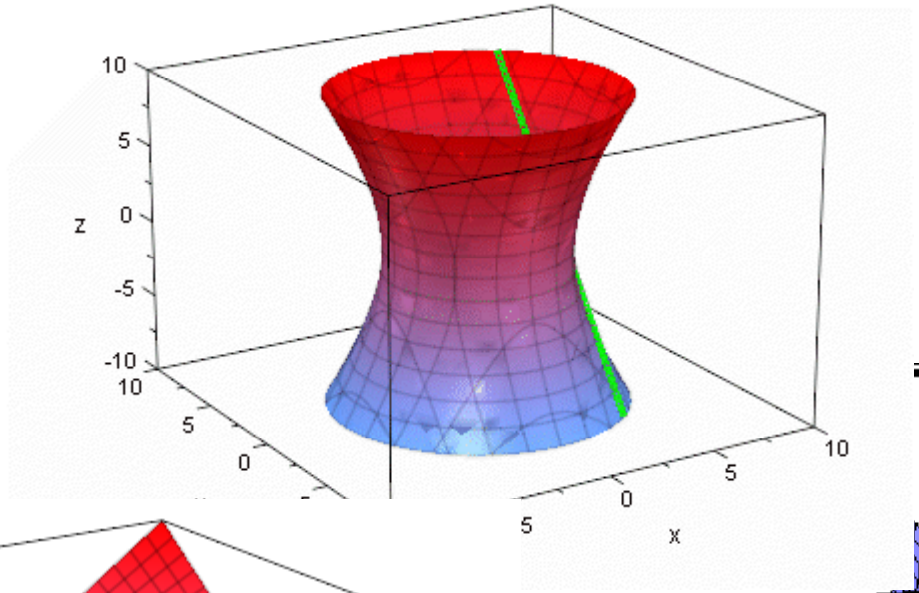
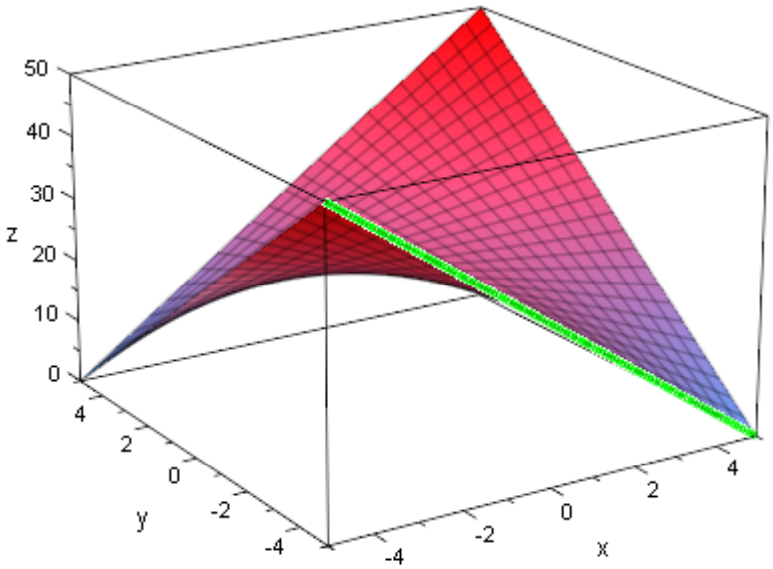
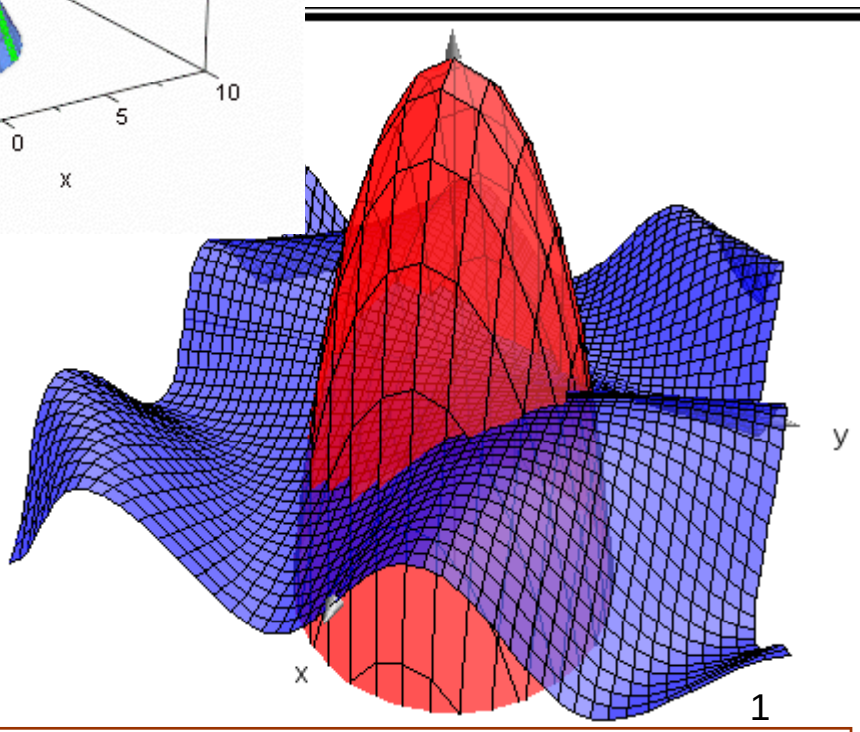
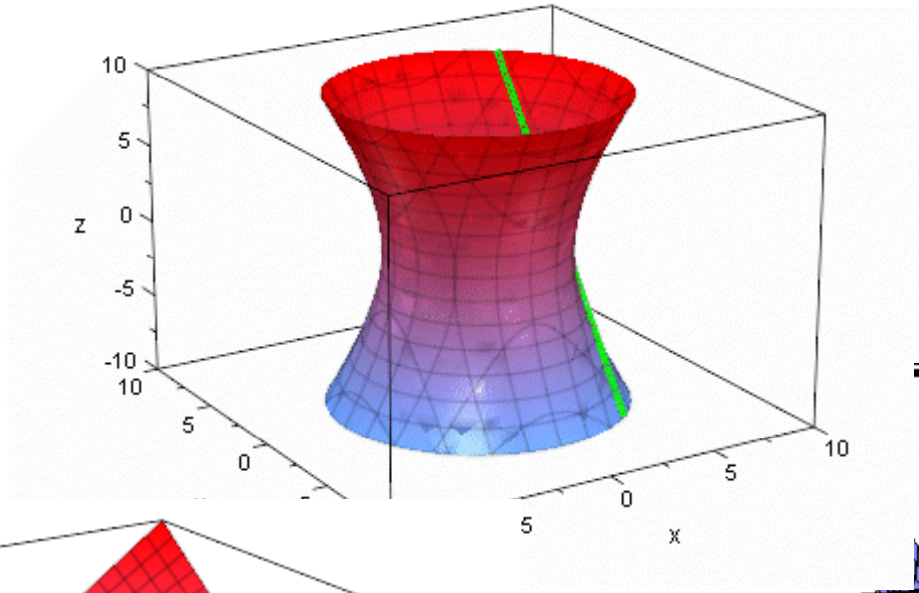
Noch mehr Funktionen

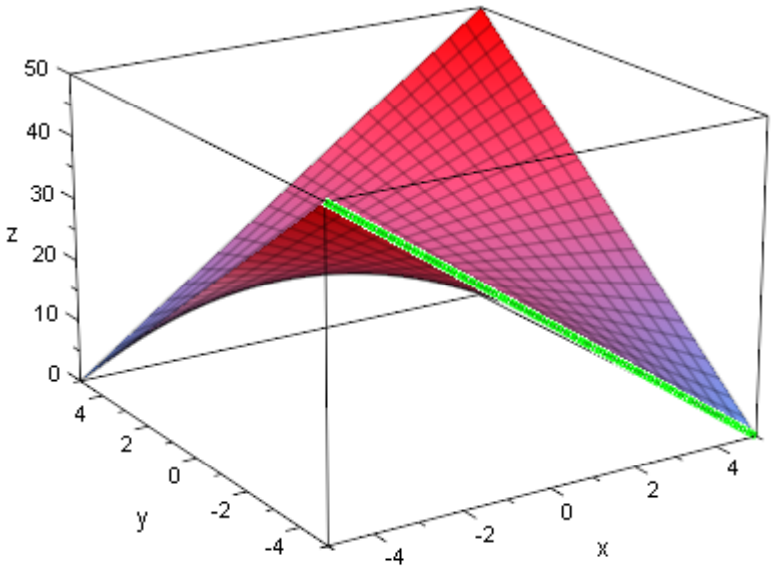


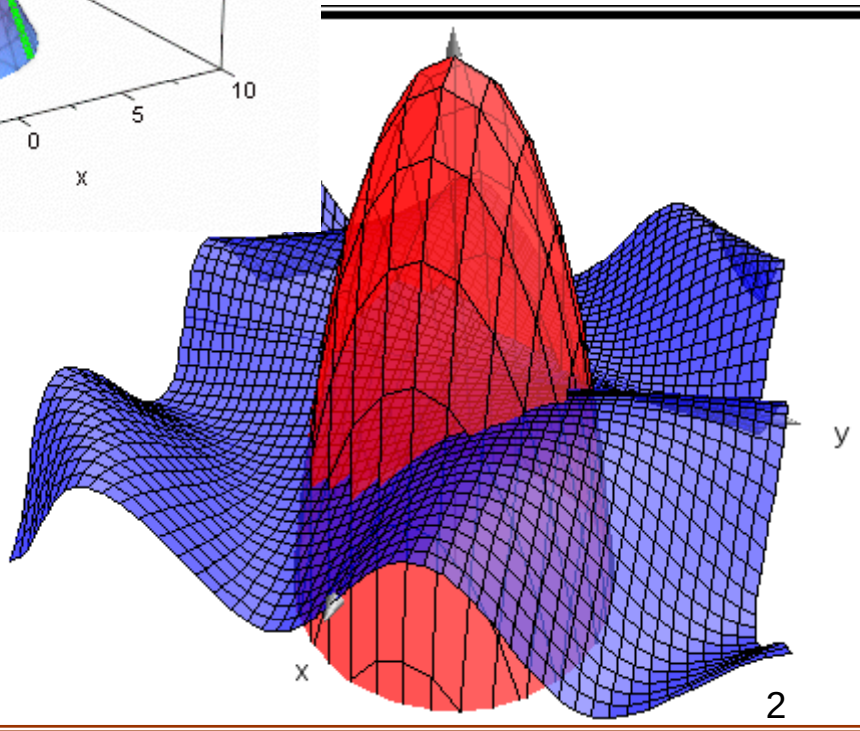




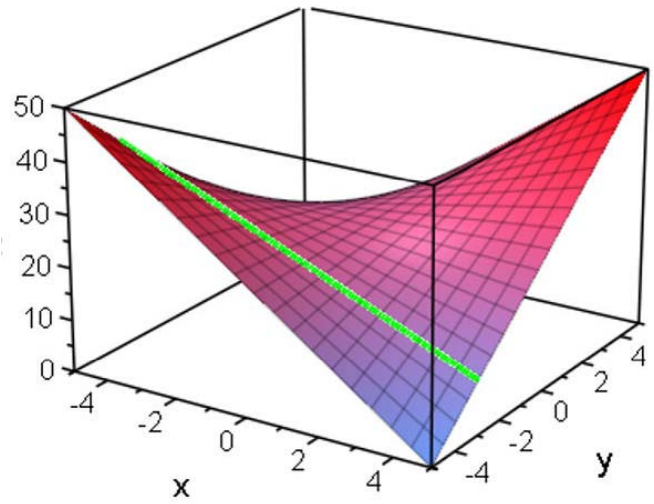
Even More Functions







Regelflächen

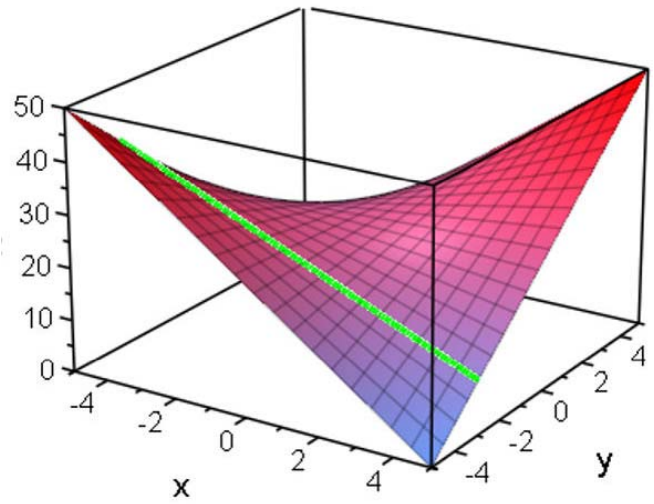


Sie entstehen durch Bewegung von Geraden im Raum und lassen sich leicht bauen.

Hyperbolisches Paraboloid

Straßenbau, Dächer, Zelte...

Ruled Surfaces



Rules surfaces are made by motion of straight lines in the 3d-space.

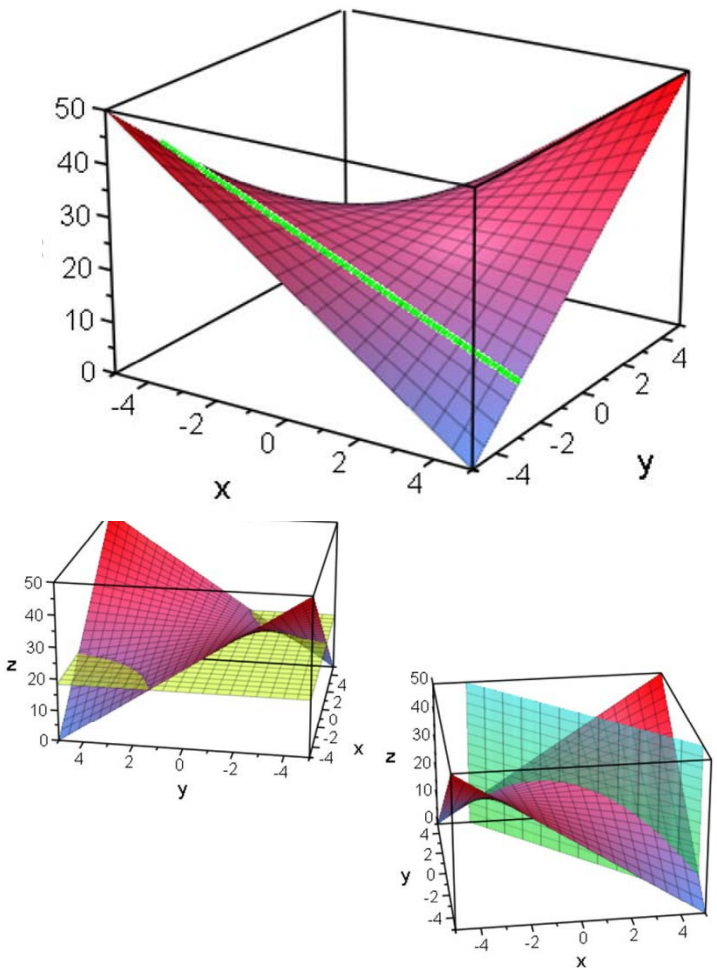
Thea are easy to build with wood or armored concrete.

hyperbolic paraboloid

road constructions, roofs, tents,…

Regelflächen

Sie entstehen durch Bewegung von Geraden im Raum und lassen sich leicht bauen.

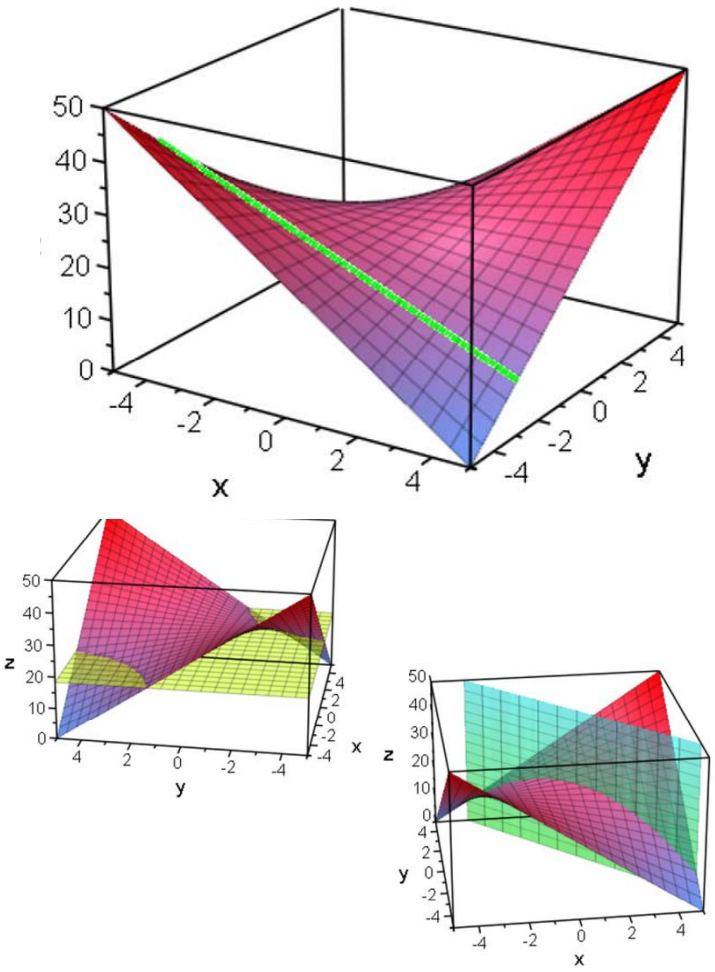


Hyperbolisches Paraboloid

Straßenbau, Dächer, Zelte...

Ruled Surfaces

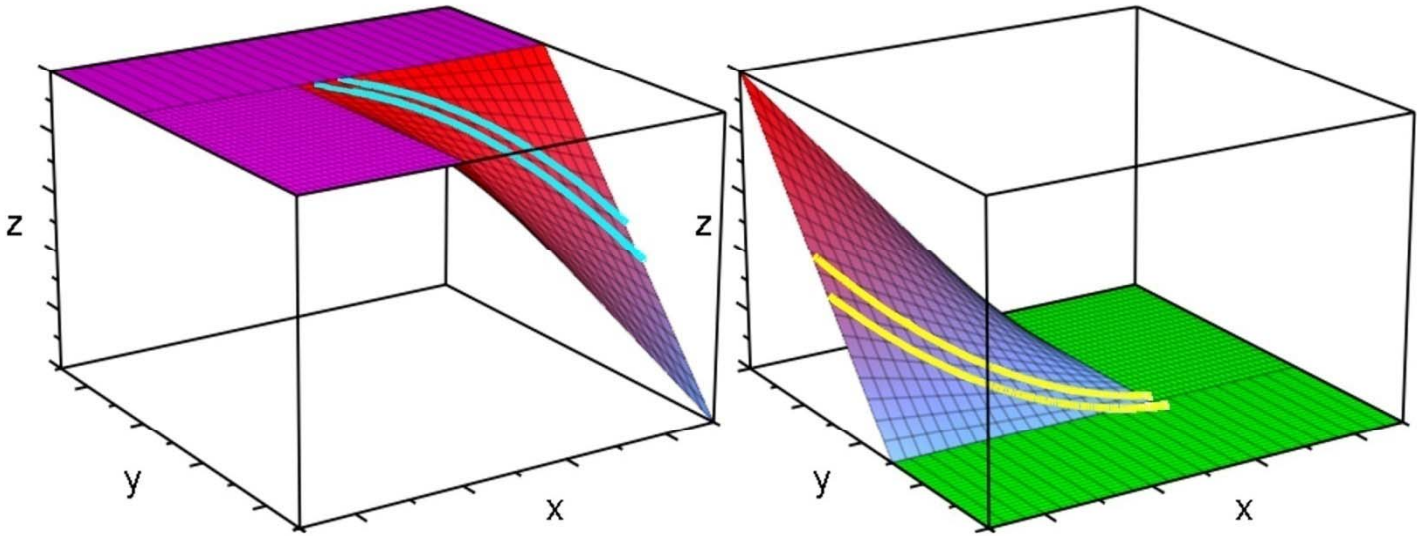
…made by motion of straight lines in the 3d-space and are easy to build

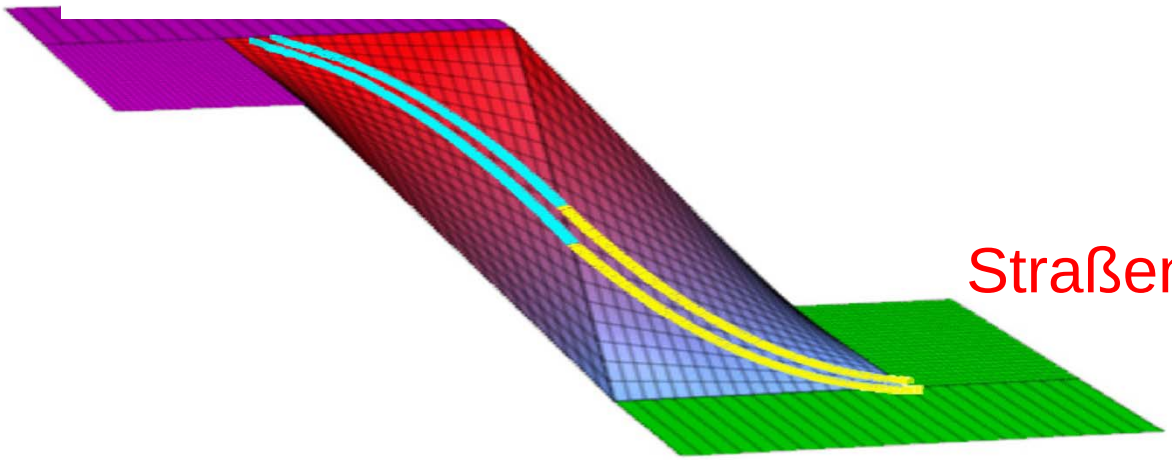


hyperbolic paraboloid

road constructions,
roofs, tents,…

Regelflächen

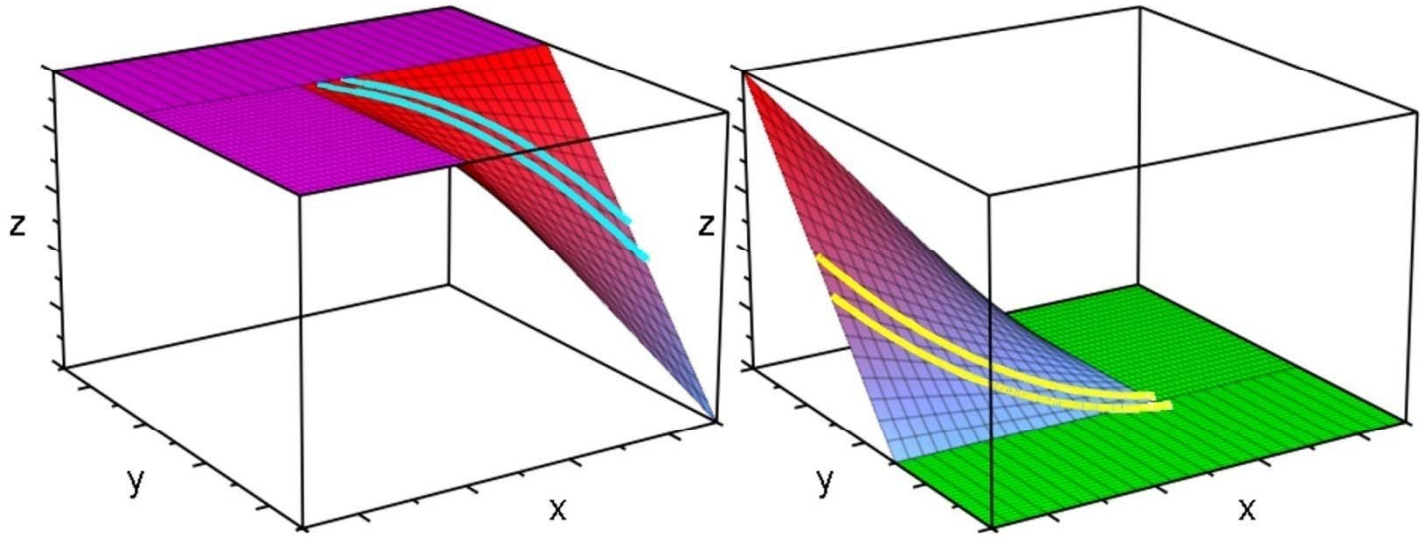


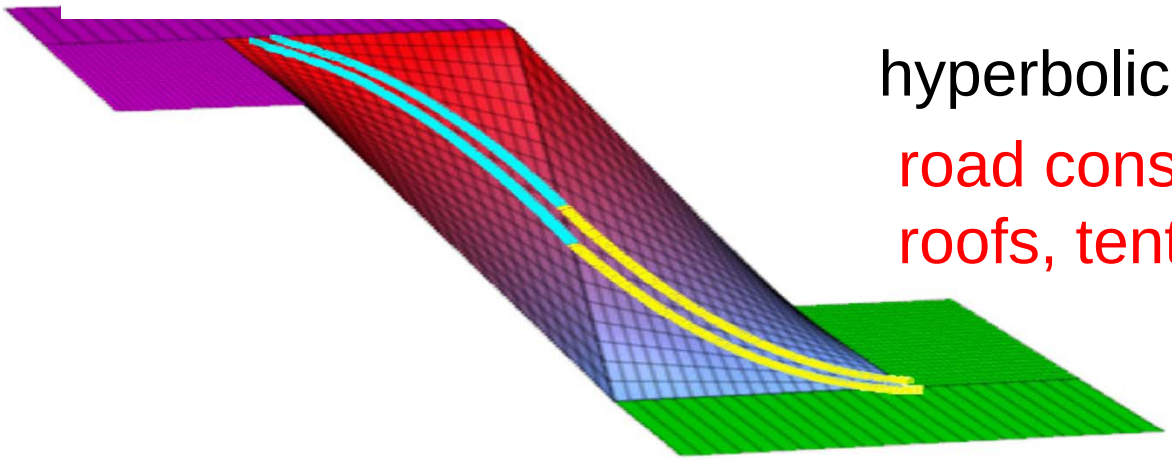


Hyperbolisches Paraboloid

Straßenbau, Dächer, Zelte...

Ruled Surfaces





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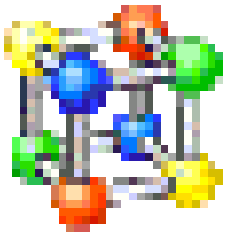
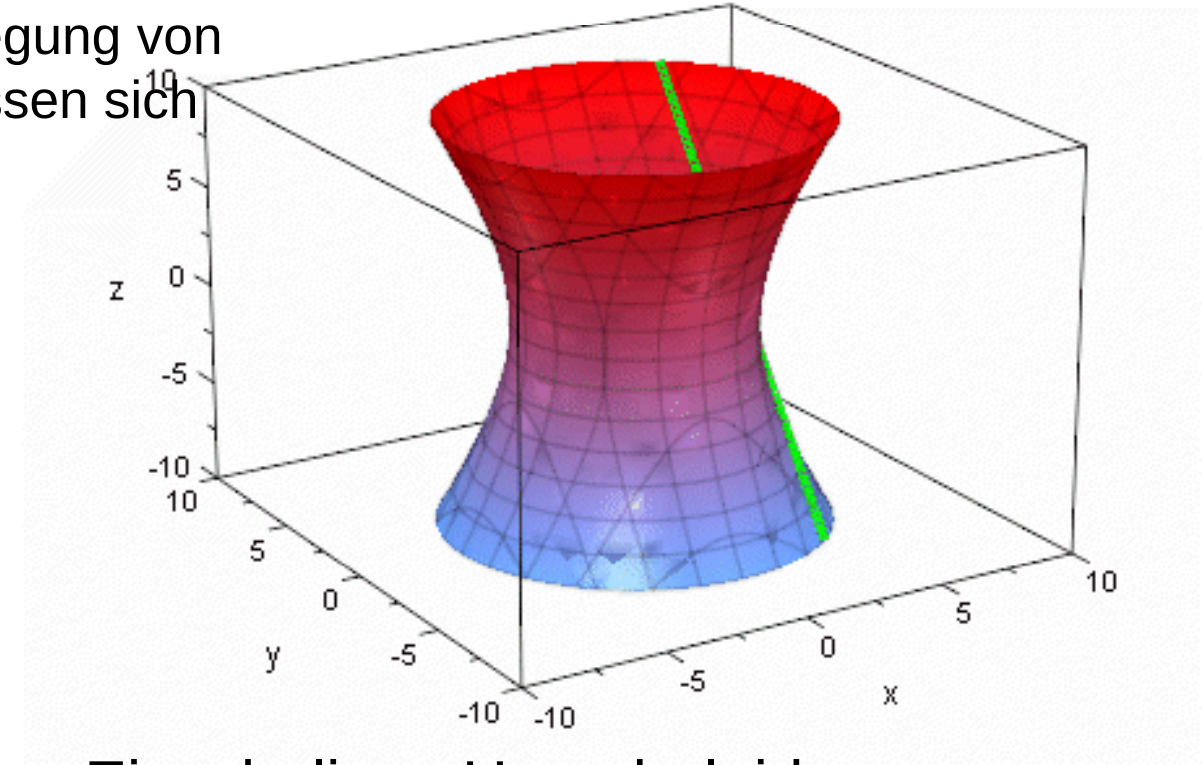
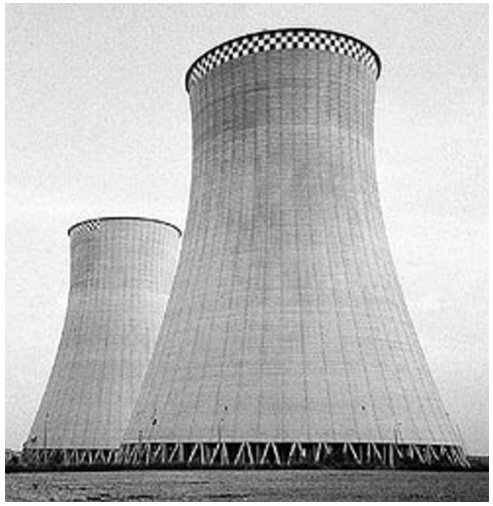


Sie entstehen durch Bewegung von Geraden im Raum und lassen sich leicht bauen.

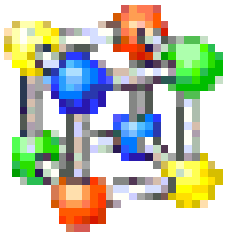


Einschaliges Hyperboloid

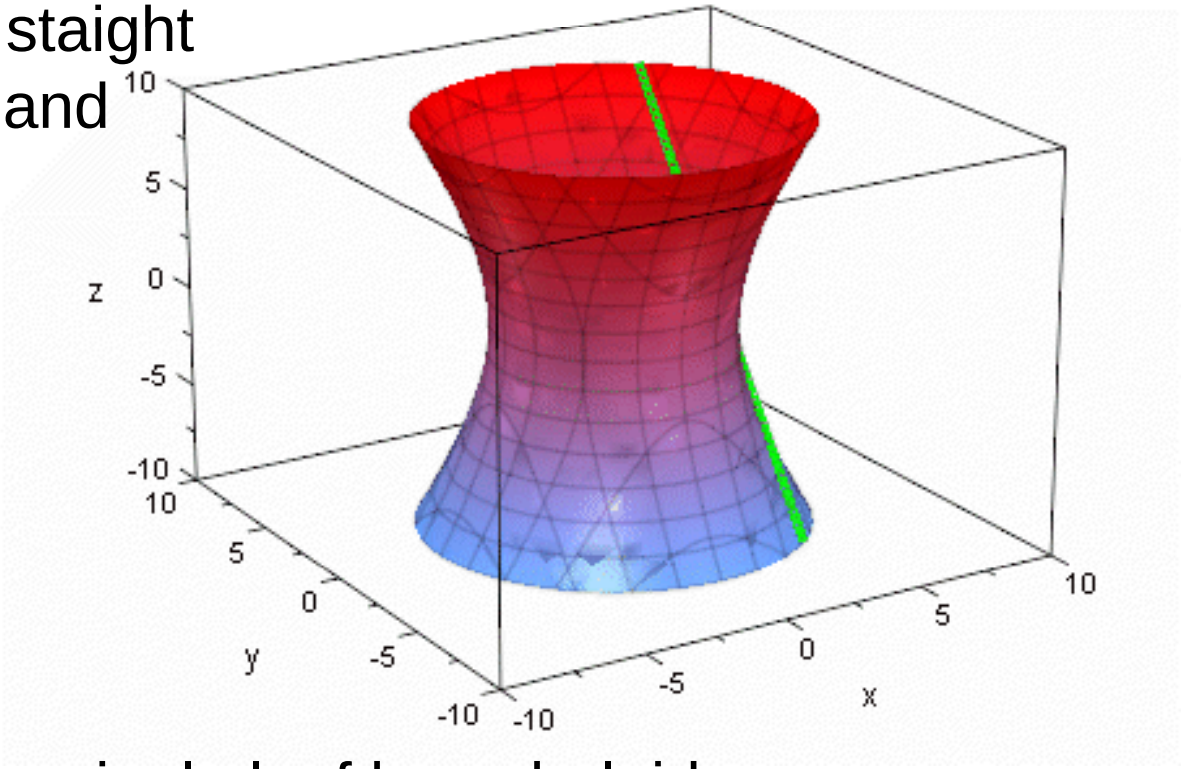


Silos, Kühltürme....

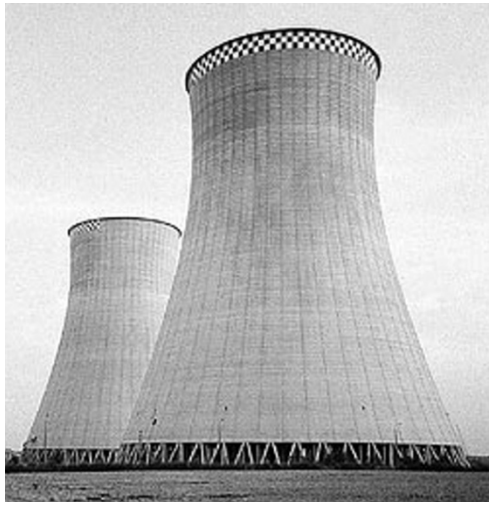
Ruled Surfaces



…made by motion of staight lines in the 3d-space and are easy to build

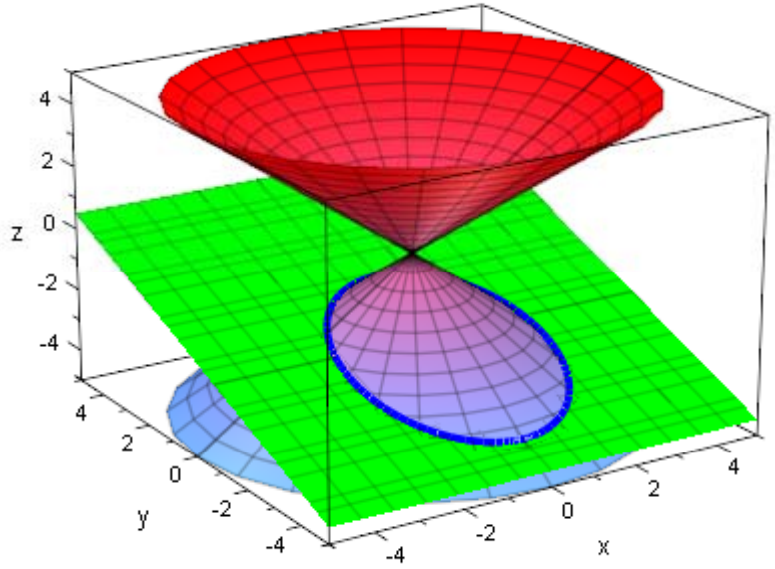


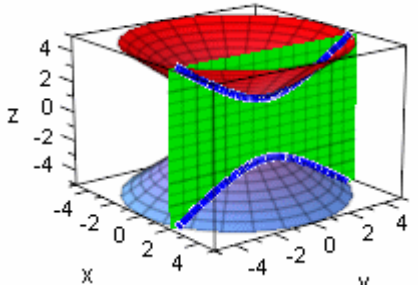
single leaf hyperboloid

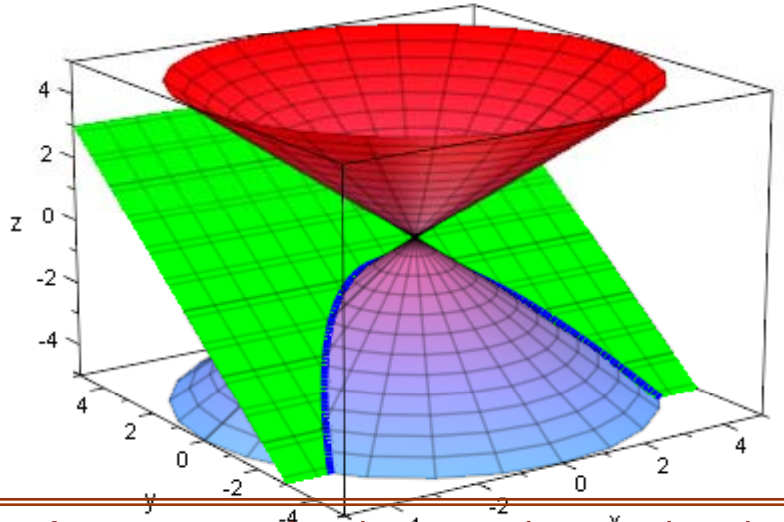


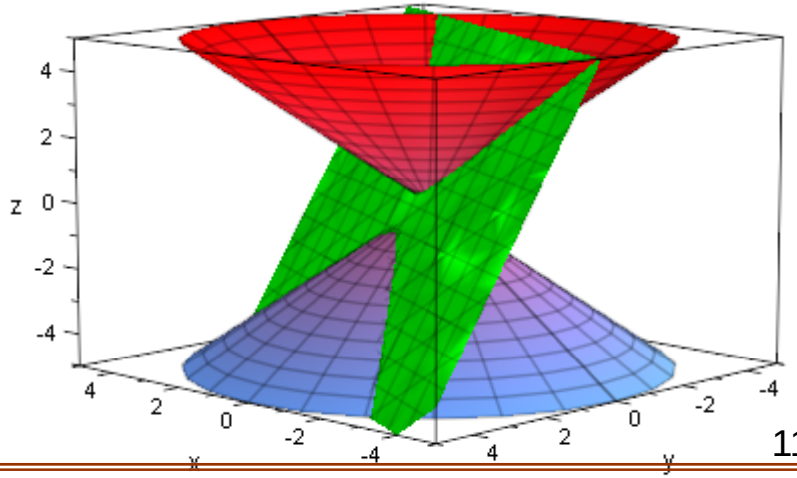
silos, cooling towers....

Kegelschnitte

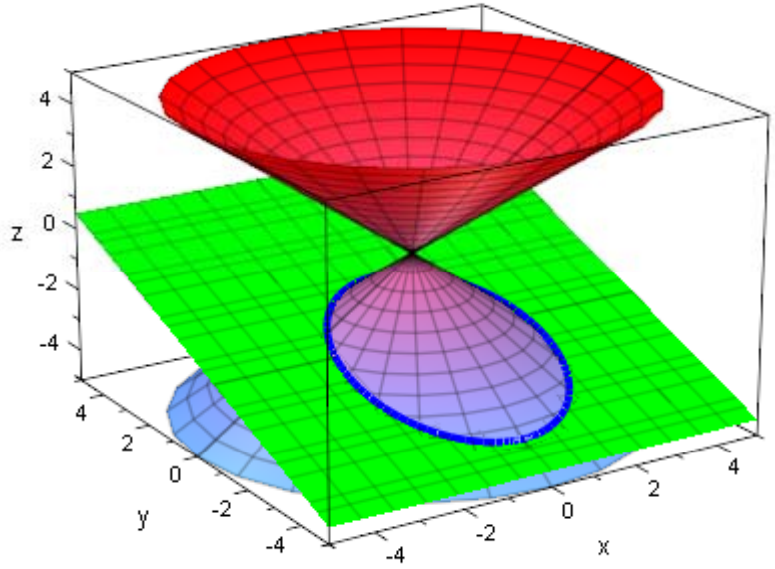


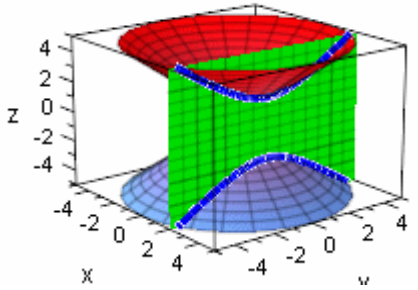


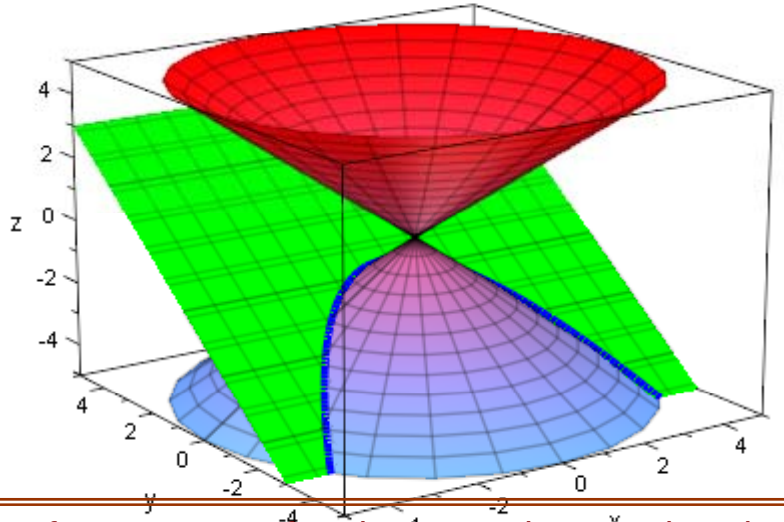


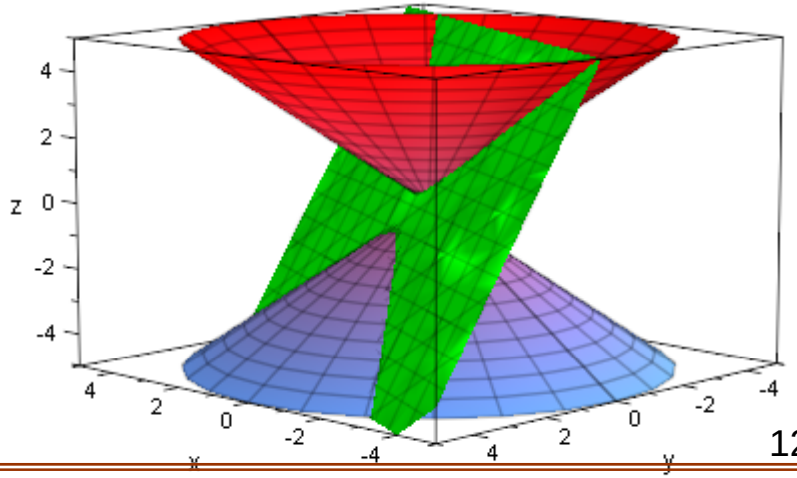


Conic Sections

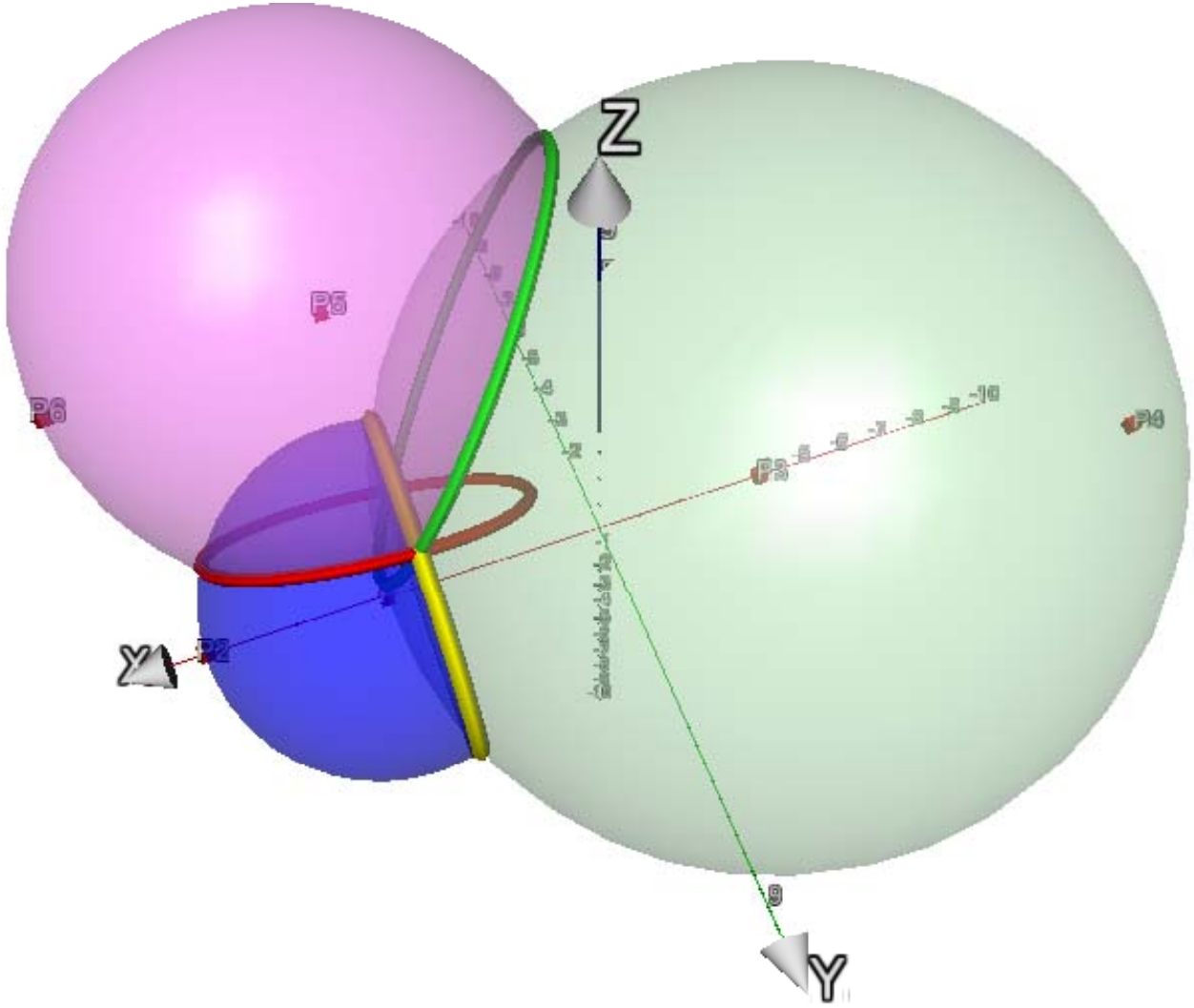




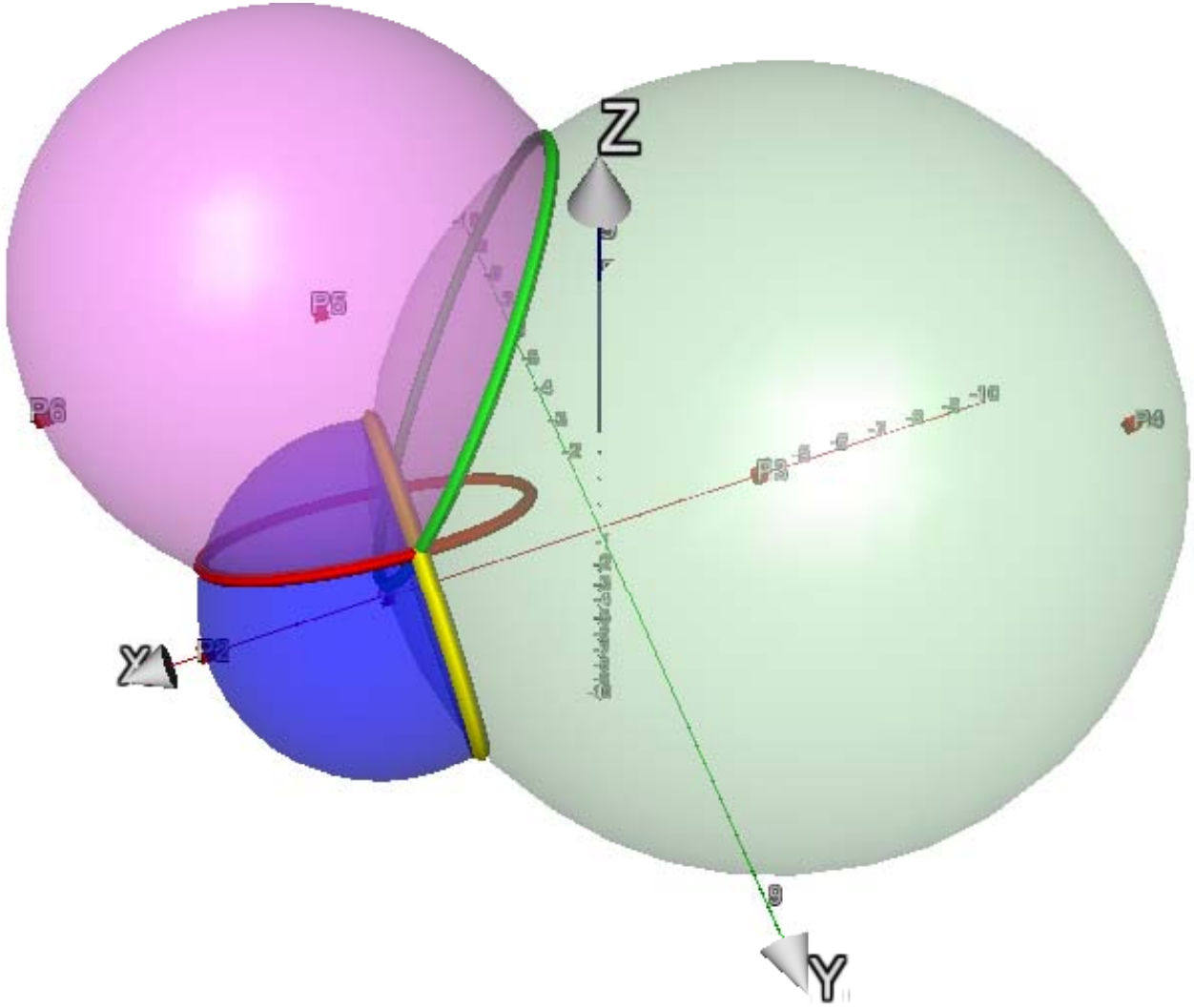




GPS: Wie funktioniert das?



GPS: How Does it Work?



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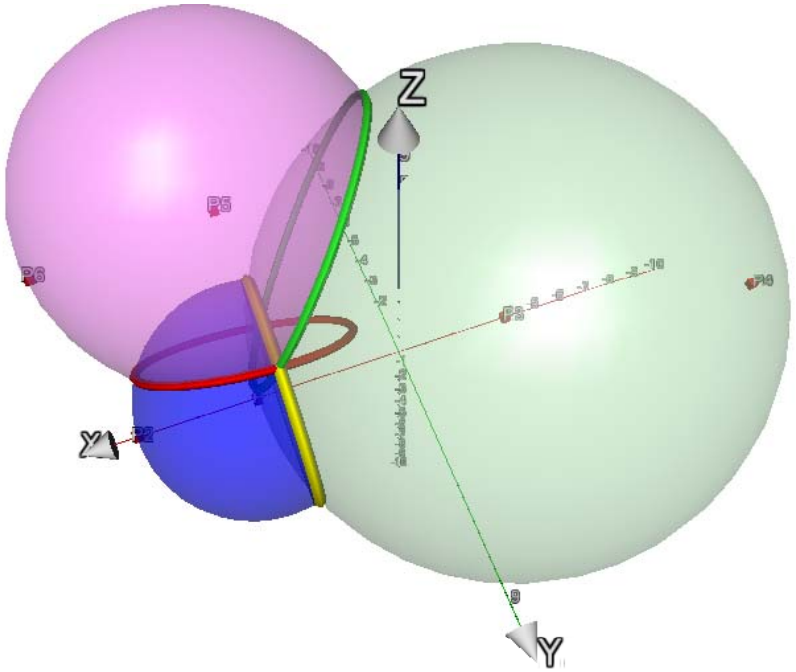
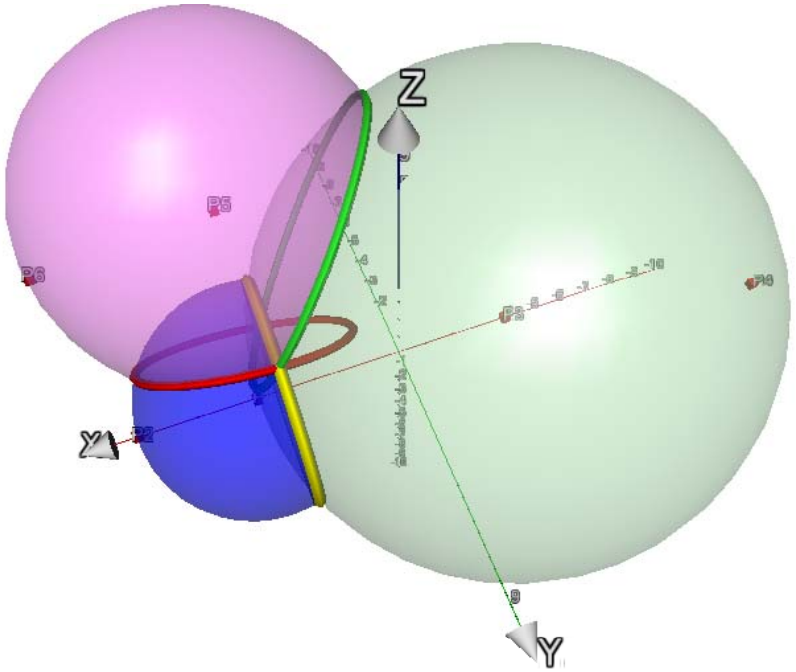


- Die Entfernungen vom GPS-Gerät zu drei geostationären Satelliten werden gemessen.
- Um jeden der Satelliten kann man sich eine Kugel denken, deren Radius die gemessene Strecke ist.
- Das Gps-Gerät berechnet, wo sich die drei Kugeln schneiden. Das sind zwei Punkte im Raum
- Einer der Punkte ist entweder unwahrscheinlich oder wird mit Hilfe der Entfernung zu einem vierten Satelliten ausgeschlossen.

So ergeben sich die Geo-Koordinaten des Standortes.

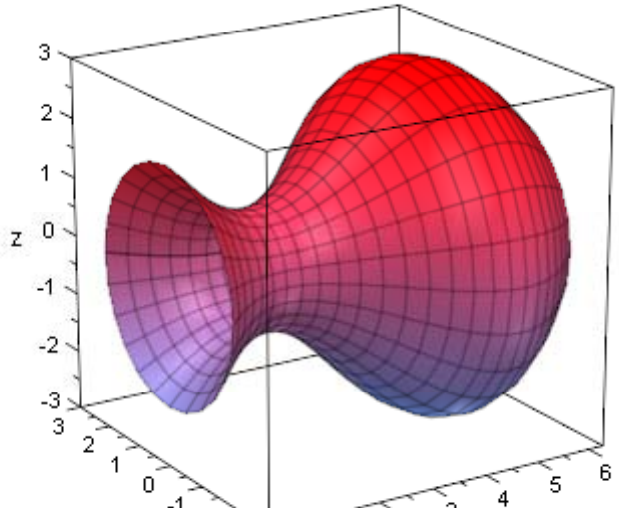
GPS: How Does it Work?

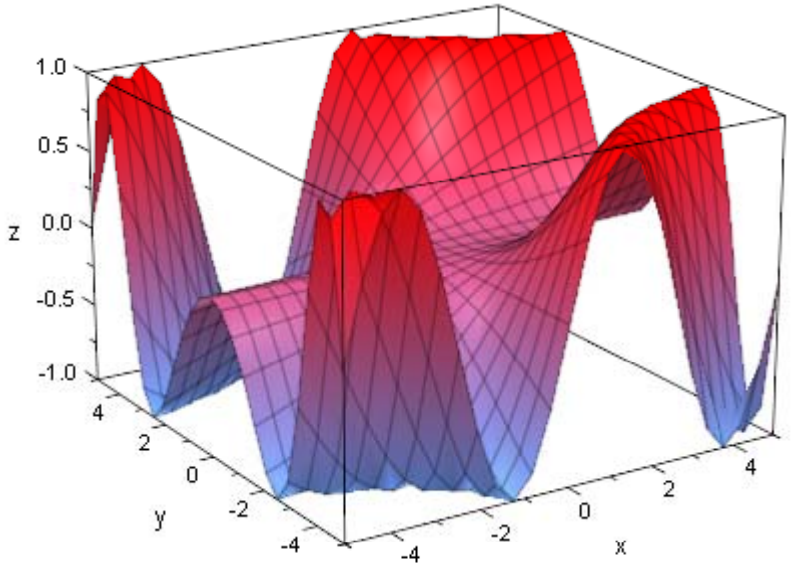


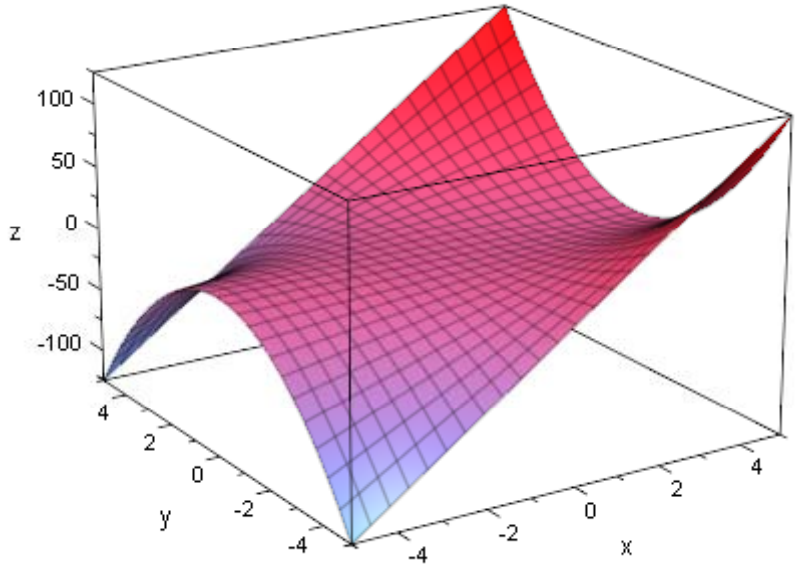
- The distances from the GPS-device to three geostationary satellites. The distances from the device to the atellites have to be quantified.
- Think a sphere around each of the satellites with the radius from the measuring above.
- The GPS-device calculates the two intersection points.
- One of these points is either unlikely or a fourth satellite eliminates one of these points.

So the geo-koordinates of the position result.

Noch mehr Flächen und Körper

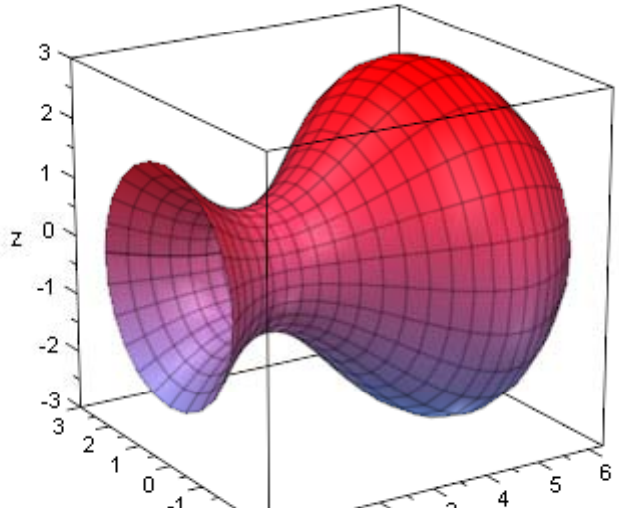


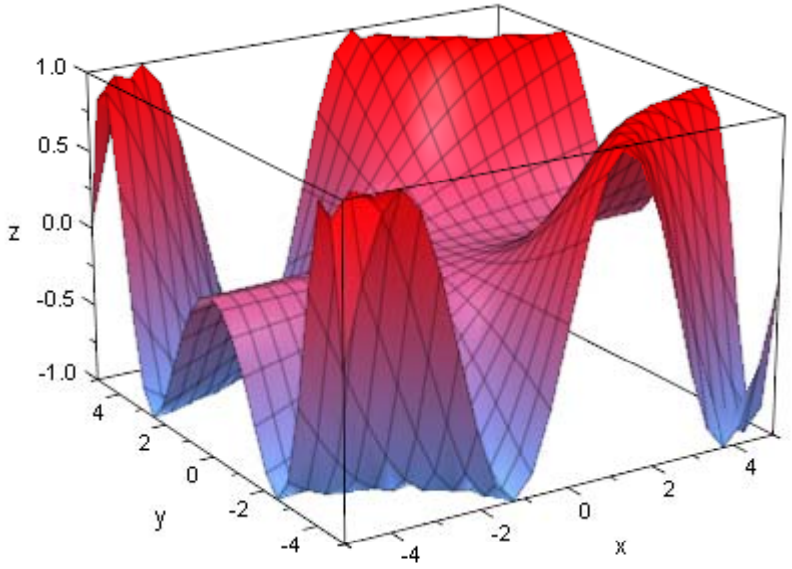


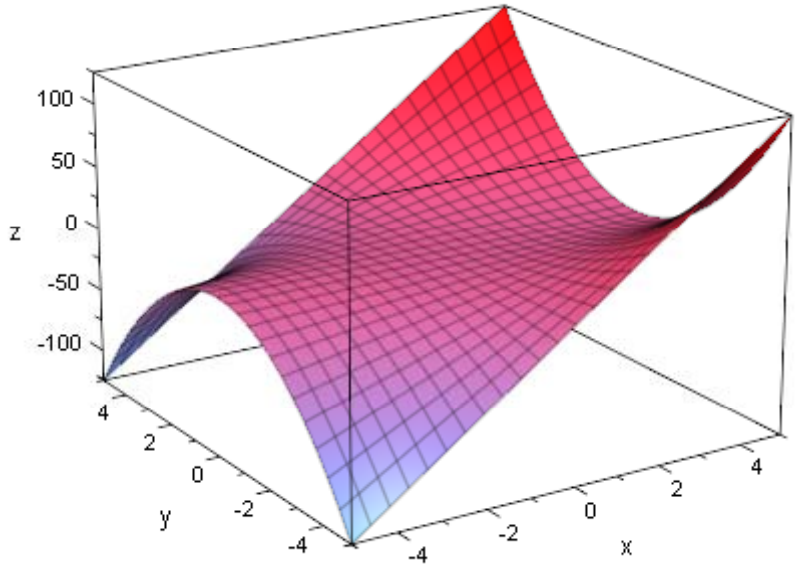


$$z = f(x, y)$$

Even More Areas and Solids







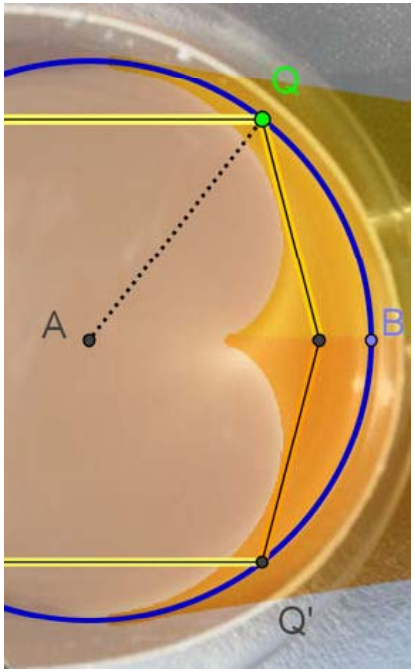
$$z = f(x, y)$$

Funktionen und Relationen sind überall

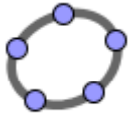
Katakaustik

Kardioide

als Reflexionskurve



Schauen Sie mal in ihre Kaffeetasse

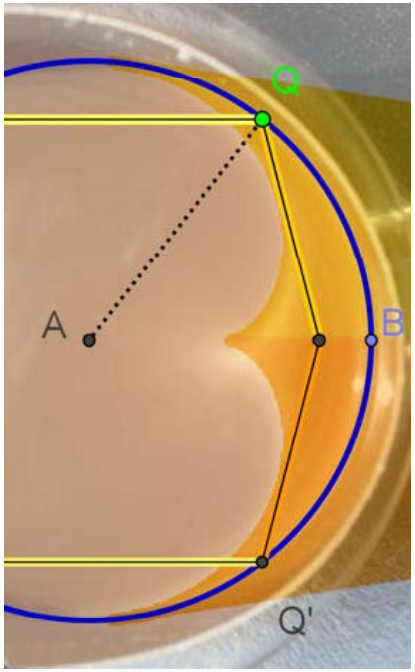


Funktions and Relations are Everywhere

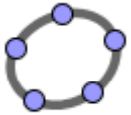
katacaustik

kardioide

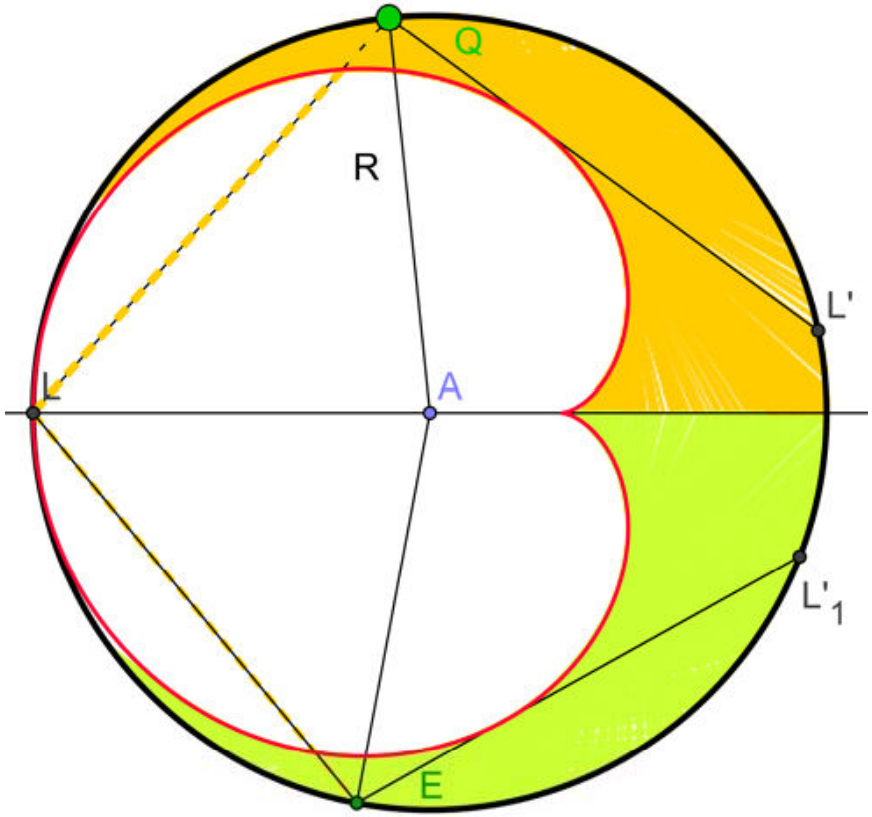
as a reflection curve



Have a look in your coffee cup!



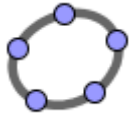
Funktionen und Relationen sind überall



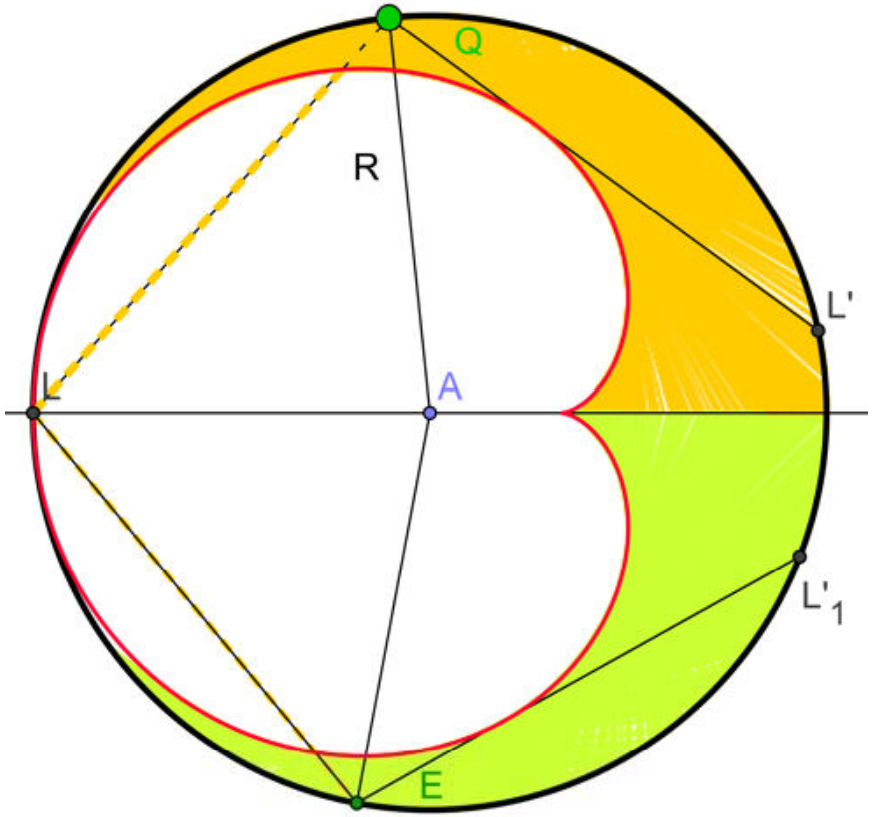
Katakaustik

Kardioide

als Reflexionskurve



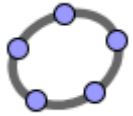
Funktions and Relations are Everywhere



katacaustik

cardioide

as a reflection curve



Funktionen und Relationen sind überall

Das ist ein weites Feld.....

Konchoide des Kosinus

Funktions and Relations are Everywhere

conchoide of the cosine

and more and more….