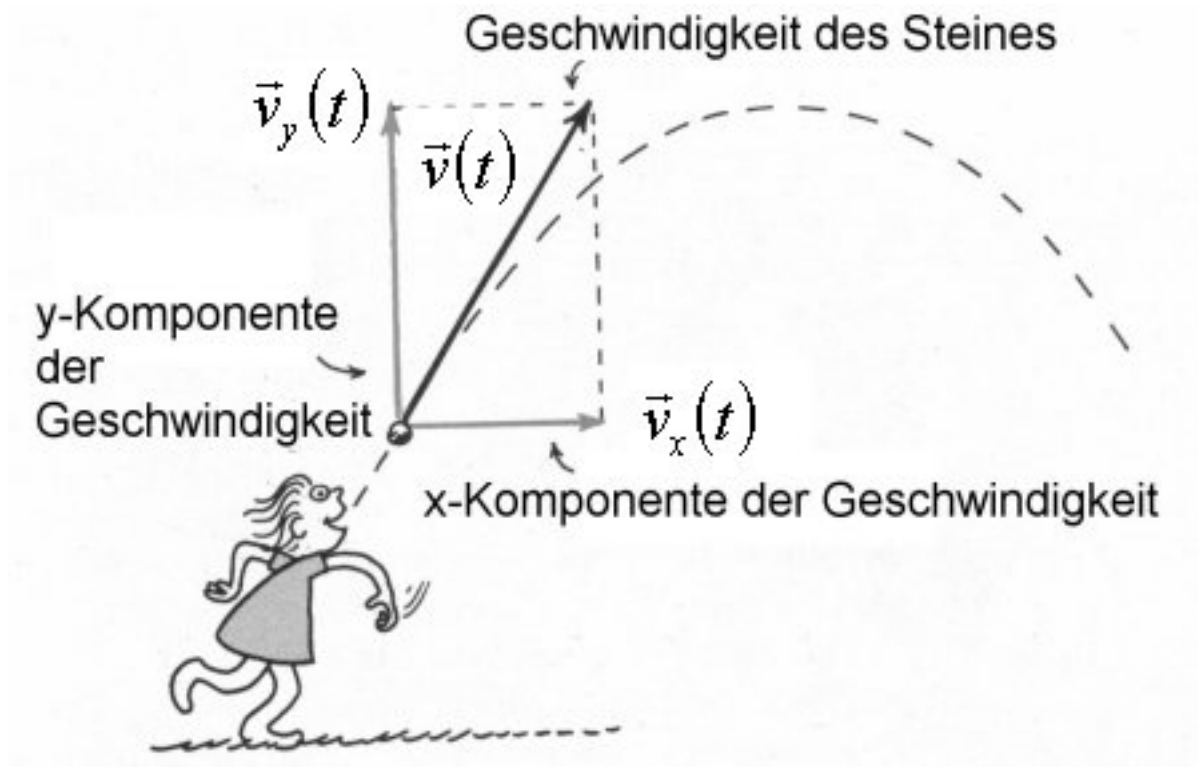


Trajectory of a thrown object



In the absence of air, the trajectory of a thrown object is described by the following equations:

$$x(t) = v_0 \cos(\alpha) t;$$

$$y(t) = v_0 \sin(\alpha) t - \frac{1}{2} g t^2$$

In this representation, x and y are the coordinates of the object, v_0 the initial velocity, α the initial angle and t the time.

```
a = 48;  
v_0 = 9.5;  
  
t=0:0.01:2;  
x=v_0*cosd(a)*t;  
y=v_0*sind(a)*t-0.5*9.81*t.^2;  
  
plot(x,y)  
  
xlim([0 10])  
ylim([0 10])  
title('Trajectory of a thrown object')  
ylabel('height')  
xlabel('position')
```

