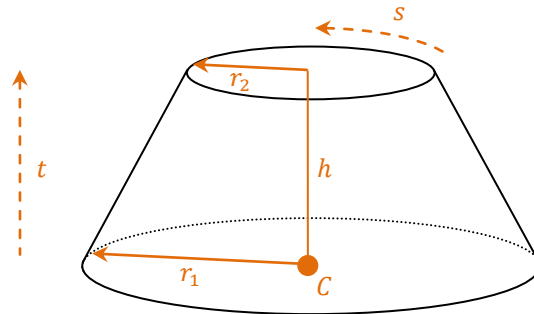


Parametric Cone (Surface)

The tapered surface of a conic section can be described in terms of x , y , and z by introducing 2 parameters (s and t). This equation describes the conic section as a vertically pointing cone with a center point C , a top radius r_1 , a bottom radius r_2 and a height of h .



$$\begin{aligned}x &= x_C + (r_1 \cdot (1 - t) + r_2 \cdot t) \cdot \cos(2\pi \cdot s) \\y &= y_C + (r_1 \cdot (1 - t) + r_2 \cdot t) \cdot \sin(2\pi \cdot s) \\z &= z_C + d \cdot t\end{aligned}$$

An example of the parametric equations defining the conic surface is shown below. The s and t values are sampled at an even interval yielding a consistent angular spacing and even vertical spacing.

