

# Ellipson

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This flash shows a slide of an ellipson along it z-dimension. Each slide is an ellipse which lies entirely inside the unit square. The equation for the ellipson as follows:

$$(x + y + z)^2 = 2(x^2 + y^2 + z^2) + 4xyz \quad (1)$$

As special case, when  $z = 0$ , the ellipse reduces to the line  $x = y$ . Similarly, when  $z = 1$ , the ellipse reduces to the line  $x + y = 1$ .

The flash has two text boxes which show the value of  $z$  and the *step* (for which  $z$  increases). The default value for “step” is 0.02 and the value of  $z$  will range between 0 and 1. When the value of  $z$  reach 1, it will come back to 0.

There are three buttons for control the flash.

- *Dec Step*: Decrease the value of *step* by 0.01. You cannot decrease the value of “step” below 0.01.
- *Inc Step*: Increase the value of *step* by 0.01. You cannot increase the value of “step” above 0.49.
- *Pause/Resume*: In order to pause/resume the flash animation.