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:

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

(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.