

Example $A: \text{L-box} \rightarrow \text{L-box}$

$$A\left(\begin{bmatrix} x \\ y \end{bmatrix}\right) = \begin{bmatrix} \frac{1}{2} & 0 \\ 0 & \frac{1}{2} \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} + \begin{bmatrix} \frac{1}{4} \\ \frac{1}{4} \end{bmatrix} = \begin{bmatrix} \frac{1}{2}x + \frac{1}{4} \\ \frac{1}{2}y + \frac{1}{4} \end{bmatrix}$$

Is A a contraction?

Does it have a fixed point?

If we start anywhere, and iterate, do we get to the fixed point?

