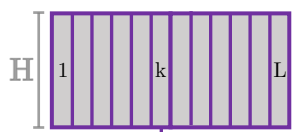


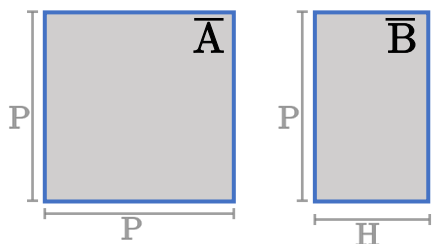
Layer input, $\mathbf{u}_{1:L}$



\mathbf{u}_k

S5 SSM:

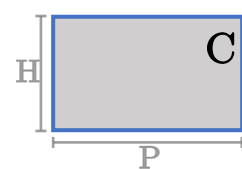
$$\mathbf{x}_k = \bar{\mathbf{A}}\mathbf{x}_{k-1} + \bar{\mathbf{B}}\mathbf{u}_k$$



\mathbf{x}_k

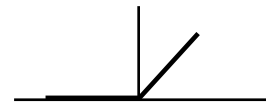
Emission:

$$\mathbf{y}_k = \mathbf{C}\mathbf{x}_k$$



\mathbf{y}_k

Nonlinearity



\mathbf{u}'_k

Single S5 layer

Layer output, $\mathbf{u}'_{1:L}$

