

From State-Space to Transfer Function

Let us find the *transfer function* from u to y corresponding to the state-space model

$$\dot{x} = Ax + Bu$$

$$y = Cx + Du$$

- ▶ in the scalar case ($x, y, u \in \mathbb{R}$), we took the Laplace transform
- ▶ the same idea here when working with vectors: just do it component by component