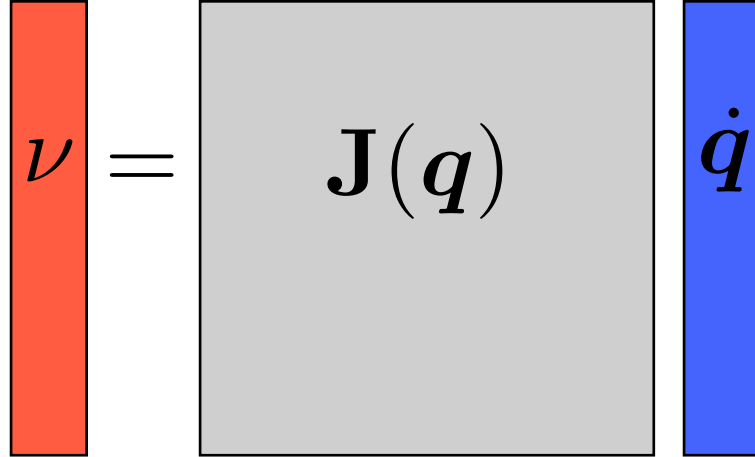


uncontrollable DoF

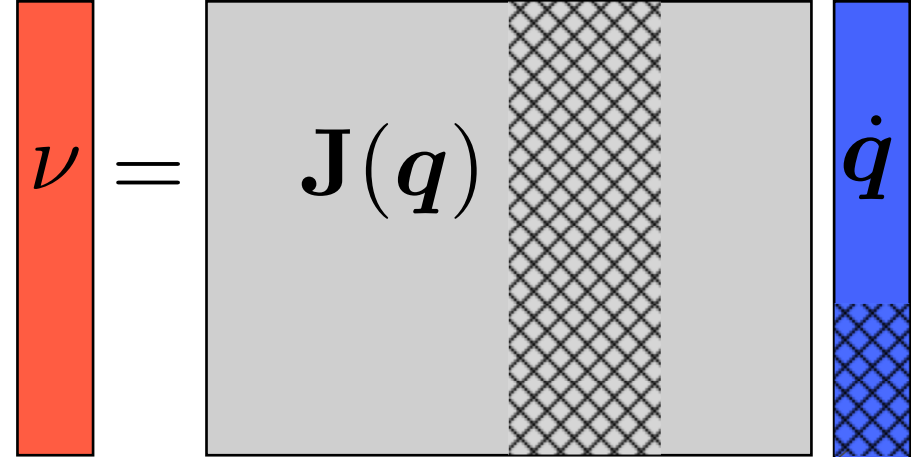
$$N < \dim \mathcal{T}$$

under-actuated



$$N = \dim \mathcal{T}$$

fully-actuated



locked joints

$$N > \dim \mathcal{T}$$

over-actuated