

Partial Trace



op

subsystem



$$\frac{1}{2} \begin{bmatrix} \text{blue} + \text{blue} & \text{purple} + \text{purple} \\ \text{orange} + \text{orange} & \text{green} + \text{green} \end{bmatrix}$$

op_red



$$\frac{1}{2} \begin{bmatrix} \text{blue} + \text{green} & \text{blue} + \text{green} \\ \text{light blue} + \text{light green} & \text{blue} + \text{green} \end{bmatrix}$$

op_red2

```
op_red, op_red2, r = sos.subsystem(s, op, ['S'], keep = True)
```