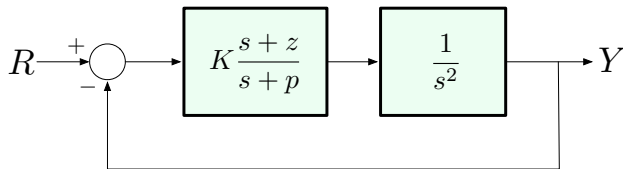# Approximate PD Using Dynamic Compensation

Double integrator:

Characteristic equation:

$$1 + K \cdot \frac{s+z}{s+p} \cdot \frac{1}{s^2} = 1 + KL(s) = 0$$

Note: $L(s)$ is *not* the open-loop transfer function; it comes from the forward gain shaped by the controller acting on the plant.