

5.3.4 Analyze $\dot{x} = ax$ $\dot{y} = by$.

$$\dot{x} = ax$$

$$\dot{y} = by$$

$$A = \begin{pmatrix} 0 & a \\ b & 0 \end{pmatrix}$$

$$\bar{c} = 0$$

$$\Delta = -ab > 0.$$

$$\tau^2 - 4\Delta = -4ab$$

$$\lambda_{1,2} = \frac{0 \pm \sqrt{0^2 - 4ab}}{2} = \pm \sqrt{ab}$$

$$\therefore \alpha = \tau/2 \quad w = \sqrt{4\Delta - \tau^2}/2.$$

$$\therefore \alpha = 0.$$

