

TRANSFORMATION TO THE EQUIVALENT COORDINATES

$$\dot{z} = Az + Bu + Cv, \quad u \in P, v \in Q,$$

$$\varphi(z(T)) = \sqrt{z_1^2(T) + z_2^2(T)}$$

The change $\xi(t) = X_{1,2}(T, t)z(t)$

$$\dot{\xi} = D(t)u + E(t)v,$$

$$D(t) = X_{1,2}(T, t)B, \quad E(t) = X_{1,2}(T, t)C,$$

$$t \in [0, T], \quad \xi \in R^2, \quad u \in P, \quad v \in Q,$$

$$\varphi(\xi(T)) = \sqrt{\xi_1^2(T) + \xi_2^2(T)}$$