

* USI KETERAMATAN

Q

Observability Test

Matrix Keteramatan

Q

$$Q = \begin{bmatrix} C^T & AC^T & (A^T)^2 C^T & \dots & (A^T)^{n-1} C^T \end{bmatrix}$$

Kendalian sepenuhnya teramati
(completely observable) jika Q full
rank $\rightarrow \text{rank}(Q) = n$. Jika $Q [n \times n]$
maka $\text{rank}(Q) = n$ jika $\det(Q) \neq 0$

contoh: $Q = \begin{bmatrix} C^T & AC^T & (A^T)^2 C^T & (A^T)^3 C^T \end{bmatrix}$
 $\text{rank}(Q) = 2 < 4$ Tidak sepenuhnya
Terkendali