$t = 0 \ldots (N-1)T_s$ (7) (8)

$T(\Omega_k, \theta)$ COEFFICIENTS: LINEAR FUNCTION OF DIFFERENCE BETWEEN INITIAL & FINITE CONDITIONS

$n_i = MAX(n_a, n_b) - 1$

INDEPENDENT FROM PLANT MODEL

$$\left[Y(k) = G(\Omega_k, \theta) U(k) + \underbrace{T_G(\Omega_k, \theta)}_{O(N^{-1/2})} + \underbrace{\delta(\Omega_k)}_{O(N^{-1/2})} \right]$$

SAME FOR: PARTIAL FRACTIONAL MODEL
ORTOGONAL POLYNOMIALS ---
STATE-SPACE ---

$T_G(s, \theta) = C(sI_{n_a} - A)^{-1} X_1$

IF INIT = FINITE

$T_G(z^{-1}, \theta) = C(I_{n_a} - z^{-1} A)^{-1} X_1$

$T_G \equiv \phi$

X_1 ADDED TO θ

NOISE MODELS

$$Y(k) = Y_0(k) + N_Y(k)$$

$$U(k) = U_0(k) + N_U(k)$$

NONPARAMETRIC NOISE MODELS

$\hat{\sigma}_U^2(k), \hat{\sigma}_Y^2(k), \hat{\sigma}_{YU}^2(k)$

- INDEPENDENT, REPEATED EXPERIMENTS WITH SAME EXCITATION (PERIODIC)

! = NOISE & TF MEASURED IN THE SAME TIME

! = NOISE MODEL MEASURED IN NOMINAL OPERATIONAL CONDITIONS

PARAMETRIC NOISE MODELS

$$V(t) = H(q, \theta)\, e(t)$$

FILTERED WHITE NOISE

$$\frac{C(q, \theta)}{D(q, \theta)} = \frac{\sum_{r=0}^{n_c} c_r q^{-r}}{\sum_{r=0}^{n_d} d_r q^{-r}}$$

$d_0 = c_0 = 1$

$\theta = [c_0 \ldots c_{n_c}\ d_0 \ldots d_{n_d}\ \sigma]$