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符號對照表

- A : TLCD U 型管之截面積
- A_v : 變斷面 TLCD U 型管垂直段之截面積
- A_h : 變斷面 TLCD U 型管水平段之截面積
- A^* : 系統矩陣
- A : 離散時間系統矩陣
- a_i : 系統識別之輸出訊號係數
- B : 系統之樓層側向力擾動向量
- B_0 : 前瞬時離散時間側向力分配矩陣
- B_1 : 後瞬時離散時間側向力分配矩陣
- B^* : 側向力分配矩陣
- b_i : 系統識別之輸入訊號係數
- C : 系統之阻尼矩陣
- c_s : 結構之阻尼係數
- D : 等斷面 TLCD 管徑
- D_h : 變斷面 TLCD 水平段管徑
- d : TLCD 水平段長度
- E : 系統之地表擾動向量
- E^* : 地表擾動力分配矩陣
- E_0 : 前瞬時離散時間地表擾動力分配矩陣
- E_1 : 後瞬時離散時間地表擾動力分配矩陣



er : 定義誤差
 f : TLCSD 自然振動頻率(Hz)
 $f(t)$: 作用於結構之側向力

 f_s : 結構之振動頻率

 f_l : TLCSD 系統之振動頻率

 f_o : 地表擾動頻率
 g : 重力加速度
 h_v : TLCSD 垂直段靜水位高度
K : 系統之勁度矩陣
 k_s : 結構勁度

 L_e : TLCSD 之有效長度
M : 系統之質量矩陣
 m_s : 結構質量

 n_a : 系統識別輸出訊號係數之維度

 n_b : 系統識別輸入訊號係數之維度

 Q : 非保守力
 T : 總動能
 T_s : 結構瞬時總能量
 U : 總重力位能
 $u(\cdot)$: 系統識別之輸入訊號
 u_g : 基座水平位移

 W_l : TLCSD 流體(水)重量

 W_s : 結構之總重量

 $\mathbf{w}(t)$: 擾動向量



$\mathbf{x}(t)$: 系統之位移向量

x_f : 水柱激盪位移

\dot{x}_f : TLCD 流體之流速

x_s : 結構頂樓相對於地表之位移

\ddot{x}_f : 流體激盪加速度

x_h : 變斷面 TLCD 水平段水位變化

$y(\cdot)$: 系統識別之輸出訊號

$\mathbf{z}(t)$: 狀態向量

α : TLCD 系統與結構之質量比

β : TLCD 水平段長度與有效長度之比值

γ : TLCD 系統之振動頻率與結構的振動頻率之比值 (f_l/f_s)

γ_T : 振動台之擾動頻率與 TLCD 元件自然振動頻率之比值

γ_s : 地表簡諧擾動頻率與結構頻率之比值

θ : 系統識別之每一瞬時系統參數

ω : TLCD 自然振動頻率(rad/sec)

δ : 水頭損失係數

ρ : 流體密度

ε : 容許誤差

ζ_s : 結構之阻尼比

ϕ : 孔口板開孔面積與 TLCD 元件斷面積之面積比

λ : 變斷面 TLCDU 型管垂直段與水平段之截面積比