

μāÇá Óyó ÓÑ# SéÑ# Óyú# #00

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Y70->@ø3úG p d Ž * • ' -m)3 @ç βK0" β Ö%

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, • \ 3ñ = G p d Ž * • ±±' Y , p % , - " 1 p , • \ - W6 >ÿ • "6 p , • - W\ L • € % p , • t * ^ % + ßo WM% Æ Ò3ñ = "ü E - 8 á

$$t = f v_1 "v_\beta - "v_n \acute{I} \quad \% \beta o$$

ææ; , • ' E ±±mF } 42(/ g BUð } 42(%BU ð } 42(7 ±±ü - W%æ = %oß "x_0" - "x_n oF* * ^ , • t ±±M%æ p Fúì T, %í Ä] "ü E - 8 á

$$x = \sum_{i=1}^n \textcircled{R} b_i v_i "æ \sum_{i=1}^n \textcircled{R} b_i = \beta \quad \% \beta o$$

ææ n p , • t Z (, - %æ BUð } 4 b % o = %o_1 " b_\beta - "b_n o * ^ 8 < @DÄÄ] á

$$\begin{bmatrix} b_\beta \\ b_o \\ \acute{E} \\ b_n \end{bmatrix} = \% \beta o - v_1 o æ \% \beta o - v_1 o æ - \% \beta o - v_1 o \acute{O}^\beta \frac{1}{4}$$

$$æ \% o - v_1 o = \Delta \% o - v_1 o \quad \% o o$$

$$b_1 = \beta - \sum_{i=\beta}^n \textcircled{R} b_i \quad \% \times o$$

ÓÚ d Ž * • 1 d Ž / § K!

6 >ÿ "x FÜ Γ \ 3 - Wg ? 3 g J WL < Ñ ö , % E ±± , • "ü E - 8 á

$$\Gamma \acute{a} = \sum_{i=\beta}^J t_i "æ_i 2 t_j \acute{a} \times \hat{A} W æ F t_i "t_j \acute{a} \Gamma \% o$$

< Z "Dæ E , • t \hat{A} g k p , • " ! j k j n - \beta %

4 Ç - Wg E ð ð 6 >ÿ "x FÜ Ä] J W , • " ü - W , • t_j t * ^ 4! Ó g d ±± GM! < p^t_j % o ü E "6 & "M @ E 4 Ž # 3ñ 5 = G p d Ž * • s % o á

$$s \% o = \sum_{j=\beta}^J \textcircled{R} \delta_j \% o \varphi^t_j \% o "æ_j \% o = \begin{cases} \beta "æ \acute{a} t_j \\ ! "æ \times t_j \end{cases} \quad \% o o$$

ææ d Ž / § K! \ 4 U 6 >ÿ "x FÜ Γ g ^ 2 "4 Ç 4! Ó d 1 E 4 Kc • C^r ±±m 6 d Ž * • s ±±Kó 5 %

$$S_d \% o \acute{o} = \times \acute{a} C^r \% o \acute{o} \Big|_t \acute{a} P_d "F t \acute{a} \Gamma W \quad \% \beta o$$

< Z "P_d 4 m 6 4! Ó g d ±± GM! < Kó 5 %

ÓÚ t ' , • s - B

BUð } 4 b % o = %o_1 "b_\beta - "b_n o Æ = 4! Ó g d ±± \ - Ü " GM! < • < - 8 á

$$B_\kappa^d \% o \% o = \frac{d J}{\kappa_1 J \kappa_\beta J - \kappa_n J} b^{\kappa_1} b^{\kappa_\beta} - b^{\kappa_n} \quad \% o o$$

ææ G p 2 (• \kappa Ç v - 8 á

$$\kappa = \% o_1 " \kappa_\beta - " \kappa_n o \acute{a} N^{n+\beta} \quad \% o o$$

ææ \kappa ±± \beta - 80 • g á

$$|\kappa| = \kappa_1 + \kappa_\beta + - + \kappa_n = d "d \quad ! \% \beta o$$

ææ \kappa ±± Kc ... Ç v - 8 á

$$\kappa J = \kappa_1 J \kappa_\beta J - \kappa_n J \quad \% \beta \beta o$$

ææ \kappa ±± m 6 3ñ 5 6 & " @ Û # \ ¼ " \ ¼ " \ DM § ¼ - 8 á

$$\kappa \acute{a} \times \% o " ! " ! - " ! o " \% o - \beta " \beta " ! - " ! o "$$

$$æ \% o - \beta " ! " \beta - " ! o - " \% o - " ! " \beta " d - \beta o "$$

$$æ \% o - " ! " ! " d o W \quad \% \beta o o$$

ææ \kappa ±± m 6 3ñ 5 • FÜ \hat{d} g á

$$\hat{d} = \frac{\% o + n o J}{n J d J} \quad \% \beta o$$

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• < á

$$p^t_j \% o \% o = \sum_{|k|=d} \textcircled{R} B_\kappa^d \% o \% o \alpha^t_j \quad \% \beta \times o$$

ææ \% \beta \times o < g G p d Ž * • ±± > K • \hat{d} • < "c^t_j g

> \hat{d} (• %

$$c^t_j = c^t_j \acute{O}_{\kappa_l=d} \acute{a} t^{\hat{d} \times \beta} \quad \% \beta " o$$

ææ ' Y GM! < 6 & " \kappa ±± 3ñ 5 \zeta D ü E g - FÜ

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$$B^d_j \% o \% o = B^d_\kappa \% o \% o \acute{O}_{\kappa_l=d} \acute{a} t^{\beta \times \hat{d}} \quad \% \beta o$$

ææ f \ \% \beta " o 1 \% \beta o < " \% \beta \times o < ±± FÜ • < ü

E - 8 á

$$p^t_j \% o \% o = B^d_j \% o \% o \alpha^t_j \quad \% \beta \beta o$$

ææ > \hat{d} (• ±± m - FÜ c ü E - 8 á

$$c = c^t_\beta \alpha^t_o \alpha - \alpha^t_j \acute{O} \acute{a} t^{J \hat{d} \times \beta} \quad \% \beta o$$

ææ ' Y GM! < ±± • m - FÜ ü E - 8 á

$$B^d_j \% o \% o = B^d_{t_\beta} \% o \% o \alpha \textcircled{B}^d_{t_o} \% o \% o \alpha - \alpha$$

$$\alpha \textcircled{B}^d_{t_j} \% o \% o \alpha \acute{O}_{\kappa_l=d} \acute{a} t^{\beta \times J \hat{d}} \quad \% \beta o$$

ææ f \ \% o 1 \% \beta \beta o < " \beta 3ñ > i "x i \% o \% o "y \% o o

*U > K • \hat{d} GM! < ' ü E - 8 á

$$y \% o = \sum_{j=\beta}^J \textcircled{R} B^d_{t_j} \% o \% o \alpha \alpha^t_j + \varepsilon \% o \quad \% \beta o$$

f \ \% \beta o 1 \% \beta o < " \% \beta o < ±± FÜ • < ü E

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$$y \% o = B^d_j \% o \% o \alpha \alpha + \varepsilon \% o = X \% o \alpha + \varepsilon \% o \quad \% \beta \beta o$$

ææ 4) 7 " & » m 6 > i "x i " d Ž * • ±± 3i T • N

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$$Y = Xc + \varepsilon \acute{a} t^{N \times \beta} \quad \% \beta o o$$

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$$R = \sum_{m=1}^r \frac{\%l - m - n - \beta o J}{\%o - \beta o J \%o - m o J} \quad \%o o$$

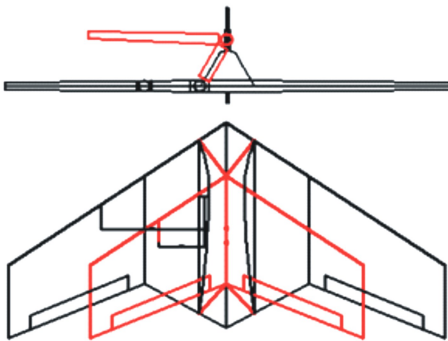
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4 Ž # æ/8 â

$$Hc = "H \hat{a} t^{R/E \times P/\hat{u}} \quad \%o \times o$$

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- 2(• C_l " È- 2(• C_m " | 7WÈ- 2(• C_n % ∈
D;2(7 ± ± A Õ È 1 È- @ĐÄ™< - 8 â

$$F_{A^x} = QS_w \%o_L \hat{=} \alpha - C_D \hat{u} \alpha o$$

$$F_{A^y} = QS_w C_Y$$

$$F_{A^z} = QS_w \%o C_D \hat{=} \alpha - C_L \hat{u} \alpha o$$

$$L_A = QS_w b_w \%o_L \hat{u} \alpha - C_n \hat{=} \alpha o$$

$$M_A = QS_w c_A C_m$$

$$N_A = QS_w b_w \%o_n \hat{u} \alpha + C_l \hat{=} \alpha o \quad \%o" o$$

< Z "Q = -\frac{\beta}{o} V^o g Ō , p g/§!A ó Ó # g/§ELš_w
g • g g5) i 50L•/ t_A g • g g5) i 50 t !A Ō
SJ-š_w g • g g5) i 505) , %

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"E GŌ*LKqí Ō È F_{u^y} \$ D™È- L_u ¹ | 7WÈ-
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' B' WL' &/ • BB± ± A Ō i • šqí Ō È
2(• C_{Yur} \$ D™È- 2(• C_{lur} ¹ | 7WÈ- 2(• C_{nur} "
Ç v - 8 â

$$C_{Yur} = \frac{F_{u^y}}{\%o S_w o}$$

$$C_{lur} = \frac{L_u}{\%o S_w b_w o}$$

$$C_{nur} = \frac{N_u}{\%o S_w b_w o} \quad \%o o$$

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- 8 â

$$C_L = C_{Ll} + C_{L\alpha} \% \alpha + C_{L\delta e} \% \delta_e$$

$$C_D = C_{Dl} + C_{di} \% C_L^o$$

$$C_Y = C_{Y\beta} \% \beta + C_{Y\delta r} \% \delta_r + C_{Yur} \% C_L$$

$$C_l = C_{l\beta} \% \beta + C_{l\delta a} \% \delta_a + C_{l\delta r} \% \delta_r +$$

$$œC_{l\beta} \% \beta + C_{l\delta a} \% \delta_a + C_{l\delta r} \% \delta_r + C_{lur} \% C_L$$

$$C_m = C_{m1} + C_{m\alpha} \% \alpha + C_{m\delta e} \% \delta_e +$$

$$œC_{m\beta} \% \beta + C_{m\alpha} \% \alpha$$

$$C_n = C_{n\beta} \% \beta + C_{n\delta a} \% \delta_a + C_{n\delta r} \% \delta_r +$$

$$œC_{n\beta} \% \beta + C_{n\delta a} \% \delta_a + C_{n\delta r} \% \delta_r + C_{nur} \% C_L \quad \%o \textcircled{B}$$

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 È2(• €_{ÿβ}¹ C_{ÿδr} 3 X g ÔÈ2(• & Ô#p>ÿ¹ æ>
 7b | >ÿ±) • €_{ÿβ}¹ C_{ÿδa} C_{ÿδr} C_{ÿp¼}¹ C_{ÿr¼} 3 X g \$ D^TÈ
 - 2(• & Ô#p>ÿ &œ5) | >ÿ &æ>7b | >ÿ & FÜ3B\$
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 2(• &Dûÿ & Kz7b | >ÿ & FÜ3B >ÿELÓ¹ FÜ
 3B Dûÿ C(±) • €_{nβ}¹ C_{nδa} C_{nδr} C_{n¼}¹ C_{n¼} 3 X
 g | 7WÈ- 2(• & Ô#p>ÿ &œ5) | >ÿ &æ>7b | >ÿ &
 FÜ3B\$ D^TÿELÓ¹ FÜ3B | 7WÿÿELÓ±) • %
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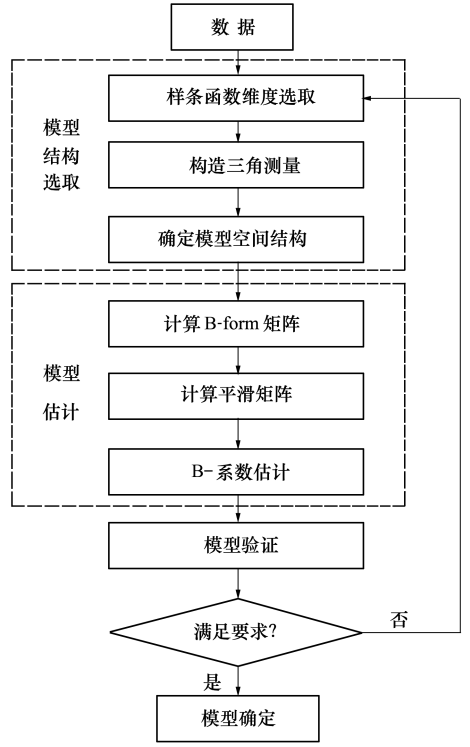
$s_B = s_{B\beta} \mu_0 + s_{B0} \mu_0 \alpha +$
 $\alpha s_{B\beta} \mu_0 \delta_e$
 $s_0 = s_{0\beta} \mu_0 + s_{00} \mu_0 \alpha C_L^0$
 $s = s_{\beta} \mu_0 \beta + s_0 \mu_0 \delta_r +$
 $\alpha s_{\beta} \mu_0 C_L$
 $s_x = s_{x\beta} \mu_0 \beta + s_{x0} \mu_0 \delta_a +$
 $\alpha s_x \mu_0 \delta_r + s_{xx} \mu_0 \delta_p^3$
 $\alpha s_x \mu_0 \delta_r^3 s_x \mu_0 C_L$
 $s_n = s_{n\beta} \mu_0 + s_{n0} \mu_0 \alpha + s_n \mu_0 \delta_e +$
 $\alpha s_n \mu_0 \delta_p^3 s_{nn} \mu_0 \alpha$
 $s = s_{\beta} \mu_0 \beta + s_0 \mu_0 \delta_a +$
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 $\alpha s_n \mu_0 \delta_r^3 s_x \mu_0 C_L$ %œ o
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$$\begin{bmatrix} B_{B\beta}^{d_{B\beta}} \mu_0 \alpha o o B_{B0}^{d_{B0}} \mu_0 \alpha o \alpha B_{B\beta}^{d_{B\beta}} \mu_0 \alpha o \alpha \end{bmatrix} \begin{bmatrix} c_{B\beta} \\ c_{B0} \\ c_{B\beta} \end{bmatrix}$$

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 , -> Ç %£ Z N , 4 ±E6 ! Ò Ž ú N , ±±T6* "
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 4 ÉE =y! D°%6 >ÿ"x Fú±±±EM K} » • > 3 0 ò
 â & > Fú¹ @ÛÄ6* È "L->@p=ŽE6 %



+ 0æd Ž * • N ,] @În/8 +

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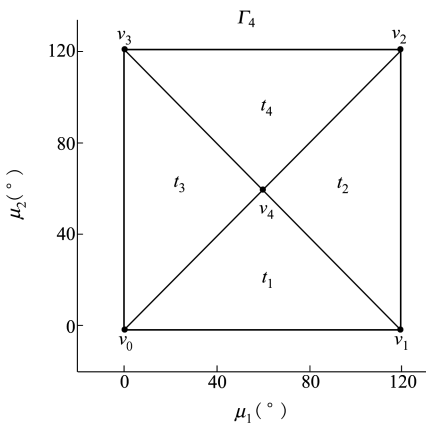
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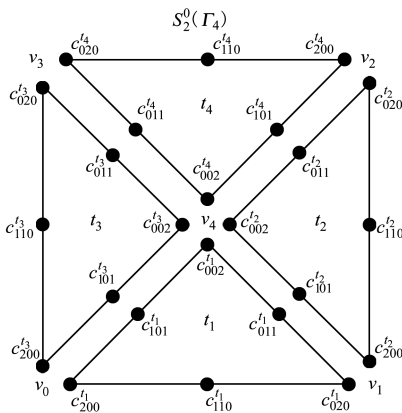
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s â S 0 ¹ % G x o g , " 6 > y" x F ü ¹ > K · ç ž D 3 X - +

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s % o o = δ_B % o Q ' t B % o o + δ_0 % o Q ' t 0 % o o +

æ s % o Q ' % o o + δ_x % o Q ' t % o o =

$$\text{æ } \delta_B \text{ } \delta_0 \text{ } \delta_x \text{ } \delta_y \text{ } \delta_z \text{ } \delta_w \text{ } \delta_v \text{ } \delta_u \text{ } \delta_t \text{ } \delta_s \text{ } \delta_r \text{ } \delta_q \text{ } \delta_p \text{ } \delta_o \text{ } \delta_n \text{ } \delta_m \text{ } \delta_l \text{ } \delta_k \text{ } \delta_j \text{ } \delta_i \text{ } \delta_h \text{ } \delta_g \text{ } \delta_f \text{ } \delta_e \text{ } \delta_d \text{ } \delta_c \text{ } \delta_b \text{ } \delta_a$$

$$\text{æ } \delta_x \text{ } \delta_y \text{ } \delta_z \text{ } \delta_w \text{ } \delta_v \text{ } \delta_u \text{ } \delta_t \text{ } \delta_s \text{ } \delta_r \text{ } \delta_q \text{ } \delta_p \text{ } \delta_o \text{ } \delta_n \text{ } \delta_m \text{ } \delta_l \text{ } \delta_k \text{ } \delta_j \text{ } \delta_i \text{ } \delta_h \text{ } \delta_g \text{ } \delta_f \text{ } \delta_e \text{ } \delta_d \text{ } \delta_c \text{ } \delta_b \text{ } \delta_a$$

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κ â x % 0 " ! " ! o " % B " ! o " % B " ! B o " % B " 0 " ! o "

æ % B " B " % B " ! " ! 0 o W % o B o

æ c e s ^ ^ % B " o < Ä > [(• c ^ j g â

$$c^{t_j} = [c_{01}^{t_1}, c_{12}^{t_1}, c_{23}^{t_1}, c_{34}^{t_1}, c_{45}^{t_1}, c_{56}^{t_1}] \text{ } \% o o$$

æ c e s ^ ^ % B o < Ä ü - W 6 > y ± ± ' Y G M ! < - F ü

ü E - 8 â

B_{t_j}^0 % B o o =

æ B_{0'1'}^0 % B o o o o o B_{0'2'}^0 % B o o o o o B_{0'3'}^0 % B o o o o o

æ B_{1'0'}^0 % B o o o o o B_{1'1'}^0 % B o o o o o B_{1'2'}^0 % B o o o o o

æ B_{2'0'}^0 % B o o o o o B_{2'1'}^0 % B o o o o o B_{2'2'}^0 % B o o o o o

æ B_{3'0'}^0 % B o o o o o B_{3'1'}^0 % B o o o o o B_{3'2'}^0 % B o o o o o

* ^ % B o < Ä > [(• ± ± • m - F ü c g â

$$c = [c^{t_B}, c^{t_0}, c^{t_1}, c^{t_x}] \text{ } \% o x o$$

æ c e s ^ ^ % B o < Ä ' Y G M ! < ± ± • m - F ü g â

B^0 % B o o =

[B_{t_B}^0 % B o o o o B_{t_0}^0 % B o o o o B_{t_1}^0 % B o o o o B_{t_x}^0 % B o o o o]

% o " o

ú ž ž ± N ,] @ î

B o @ ð Ä > K · ç ž - K b

* ^ + - 1 M E % æ 4 â v_1 = % B " ! o v_B =

$$\left(\frac{0}{-} \text{ } \text{ } \right) v_0 = \left(\frac{0}{-} \text{ } \text{ } \right) v = \left(\frac{!}{-} \text{ } \text{ } \right) v_x =$$

\left(\frac{-}{-}\right) % 6 > y • g 3 X g â_B = f v_1 v_B v_x í " t_0

= f v_B v_0 v_x í " t = f v_1 v v_x í " t_x =

f v_0 v v_x í % ^ ^ % o o 1 % o o < æ @ Ä] ü W 6 > y

• g ^ 2 (- % æ = % B " μ_0 o ± ± B U ð } 4 b % o o =

%_01 " b_B " b_0 o %

* ^ % B o < Ä ü W , • ± ± ž T • N , g â

$$\begin{bmatrix} \gamma^{t_j} \% B o \\ \gamma^{t_j} \% B o \\ \dot{E} \\ \gamma^{t_j} \% B_j o \end{bmatrix} = \begin{bmatrix} B_{t_j}^0 \% B o \% B o o o \\ B_{t_j}^0 \% B o \% B o o o \\ \dot{E} \\ B_{t_j}^0 \% B o \% B_j o o o \end{bmatrix} c^{t_j} + \epsilon_{N_j \times B} \% o o$$

< Z " N_j g ü W , • ± ± • › 3 ñ • % 7 < A E = 4 ó •

< - 8 â

$$Y^{t_j} = X^{t_j} c^{t_j} + \epsilon_{N_j \times B} \hat{a} t^{N_j \times B} \% o @$$

» \ Ä] d Ž * • / Š K ! ^ m 6 • › ± ± ž T • N ,

- 8 â

$$\begin{bmatrix} Y'^B \\ Y'^0 \\ Y' \\ Y'^x \end{bmatrix} = \begin{bmatrix} X'^B & ! & ! & ! \\ ! & X'^0 & ! & ! \\ ! & ! & X' & ! \\ ! & ! & ! & X'^x \end{bmatrix} \begin{bmatrix} c'^B \\ c'^0 \\ c' \\ c'^x \end{bmatrix} + \epsilon_{N \times B} \%_0 0$$

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 \ Ä] >K•q - KbX %
 0o @DÄ #p- Kb

$$\text{æ} @ \text{Ä}] s \hat{a} S_0^1 \%_0 \times o + \pm E 4 \check{Z} \# \text{æ} / 8 - 8 \hat{a}$$

$$\begin{aligned} c'_{10!} &= c'_{0!} + t'_{1B} = c'_{0B} + t'_{10} = c'_{10} + \\ c'_{0!} &= c'_{0!} + t'_{1B} = c'_{0B} + t'_{10} = c'_{10} + \\ c'_{10!} &= c'_{0!} + t'_{1B} = c'_{0B} + t'_{10} = c'_{10} + \\ c'_{10!} &= c'_{10!} + t'_{1B} = c'_{1B} \end{aligned}$$

æœ » \ Ä #p- Kbâ

$$H = \begin{bmatrix} ! & ! & ! & - \beta & ! & ! & \beta & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! \\ ! & ! & ! & ! & - \beta & ! & ! & ! & \beta & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! \\ ! & ! & ! & ! & ! & - \beta & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! \\ - \beta & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & \beta & ! & ! & ! & ! & ! & ! & ! & ! \\ ! & ! & ! & - \beta & ! & ! & ! & ! & ! & ! & ! & ! & \beta & ! & ! & ! & ! & ! & ! & ! \\ ! & ! & ! & ! & ! & ! & - \beta & ! & ! & ! & ! & ! & ! & \beta & ! & ! & ! & ! & ! & ! \\ ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & - \beta & ! & ! & ! & ! & ! & ! & \beta & ! & ! \\ ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & \beta & ! \\ ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & - \beta & ! & ! & ! & ! & \beta & ! \\ ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & ! & \beta & ! \end{bmatrix}$$

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 f > %00o<+±3i T • N , " *U- < 1 ...
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$$]_c = \frac{\beta}{0} \%_0 - Xc o \%_0 - Xc o \%_0$$

æœ4 Ç3ÓÉŽ # Hc = " Ä] - < 1 ...] @î
 =•Dë< â

$$\begin{bmatrix} \hat{c} \\ \hat{\lambda} \end{bmatrix} = \begin{bmatrix} X X & H \\ H & \end{bmatrix}^+ \begin{bmatrix} X Y \\ \end{bmatrix} = \begin{bmatrix} C_B & C_0 \\ C & C_x \end{bmatrix} \begin{bmatrix} X Y \\ \end{bmatrix}$$

æœ *^ 8 < @DÄ' >K(• â
 $\hat{c} = C_B X Y$

æœ , - " ' • > Ä " C_mde %_B " μ_0 o â S_0^1 \%_0 \times o + \pm
 >K(•] @î É - 8 â
 $\hat{c} = -$

$$\begin{bmatrix} ! \textcircled{R} & ! !! & ! \textcircled{R} & ! ! \times & ! \textcircled{R} " & ! \textcircled{R} - \\ ! ! \times & ! \beta & ! \textcircled{R} " & ! \times 0! & ! \beta \beta & ! \textcircled{R} - \\ ! \textcircled{R} & ! !! & ! \textcircled{R} & ! ! \times & ! \textcircled{R} " & ! \textcircled{R} - \\ ! \times 0! & ! \beta & ! \beta \beta & ! ! \times & ! \textcircled{R} " & ! \textcircled{R} \textcircled{e} \end{bmatrix}$$

¼ - 3õ N , 4 ± -> Ç

½Ö N , O'@î

BoA 3 ½)3 @ç
 X_w gL->@Dî±± > K65 "=•.g g

$$X_w = \sum_{i=B}^N x_i$$

æœÉKrDÄ' ;] @î x " , ε %_w o g
 ε %_w o = C %_w o - s_d^r %_w o
 æœ , t æf • Xi ε g

$$\bullet Xi \epsilon = \sqrt{\frac{\beta}{N} \sum_{i=B}^N \%_0 \%_0 o o^0}$$

æœ % & , t æf • Xi ε g
 $\bullet Xi \epsilon = \frac{\bullet Xi \epsilon}{|] UC \%_w o q] = C \%_w o |}$

æœ - T , % & , ε_rel] u g
 $\epsilon_{e] u} = \frac{] u | \epsilon \%_w o |}{|] UC \%_w o q] = C \%_w o |}$

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d	• Xi ε	• Xi ε	ε_e] u
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x	! Ž!"	! Ž βx	! Ž
"	! Ž β0	! Ž	! Ž"

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 Ç d Ž * • N, g C_{mðe} %_B "μ₀ o â S₀ %₀ x o +9 #
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 î BU%

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 N, - 3õ- Ç È > 8 Ž ' Y ó F â
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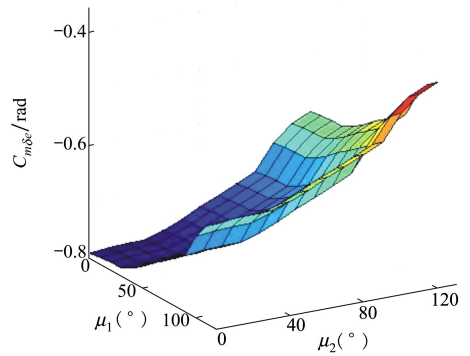
0o • Xi_ε < ! ! ß # " N, î BU ó g E / " : °
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 C_{D1} %_B "μ₀ o â S₀ %₀ x o + C_{di} %_B "μ₀ o â S₀ %₀ x o +
 C_{Yβ} %_B "μ₀ o â S₀ %₀ x o + C_{Yur} %_B "μ₀ o â S₀ %₀ x o +
 C_{Iβ} %_B "μ₀ o â S₁ %₀ x o + C_{Iδa} %_B "μ₀ o â S₀ %₀ x o +
 C_{Iδr} %_B "μ₀ o â S₁ %₀ x o + C_{Iβ%} %_B "μ₀ o â S₁ %₀ x o +
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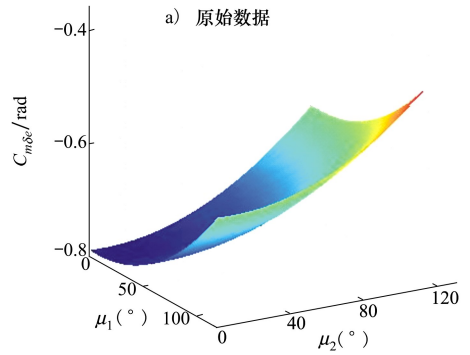
-> Ç ± ± N, A 3 ¼ 4 É - =• mg %
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C _{D1}	! ! ! "	C _{di}	! ! !
C _{Yβ}	! ! ß 0	C _{Yur}	! ! ! "
C _{Iβ}	! ! ! ®	C _{Iδa}	! ! ! ®®
C _{Iδr}	! ! xx	C _{Iβ%}	! ! ! !
C _{Ir%}	! ! ß 0®	C _{Iur}	! ! ! ®!
C _{m1}	! ! ß x	C _{mα}	! ! xx !
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C _{mα}	! ! ß ß 0	C _{nβ}	! ! ! ß!
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C_{mðe} 5 • > + g - 8 â



a) 原始数据



b) 拟合数据

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 z L • Ä] ± ± N, \ UBUð } 42(Z ü E "BUð
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 Ä h ∈ } 42(Z ± ± GM! < ü E • < â
 , - "C_{mðe} %_B "μ₀ o â S₀ %₀ x o GM! < ü E - 8 â
 p^{ij} %_B "μ₀ o = a_{j1} + a_{j2} μ_B + a_{j3} μ₀ + a_{j4} μ_B μ₀ +
 œ_{ij} μ_B⁰ + a_j μ₀^{0j} = ß" 0" " x %_x o
 œœ & Á 1 ï • i > î =• x%

=• ¼# C_{mðe} q_u ö_y # dâ S_# d^Γ ½ d& Á±GMi <2(•

t _j	a _{j1}	a _{jβ}	a _{j0}	a _j	a _{jx}	a _{j"}
t _β	q! . @ @ x	q! . ! β 0 "	q! . ! ! β "	! ! ! β "	! ! x @ x	! ! x x "
t ₀	q! . ! β	! ! β β	q! . ! β β	q! . ! ! β "	! !	! ! x
t	q! . @ @ x	q! . ! ! β "	q! . ! β 0 "	! ! ! β "	! ! x x "	! ! x @ x
t _x	q! . ! β	q! . ! β β	! ! β β	q! . ! ! β "	! ! x	! !

‡4 ‡@ç

Y ' Fô*UG p d Ž * •)3@ç& ∈N g!A Õ È
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 » G p d Ž * • N , 4 ±+±A Õ È æ/8 "4 ' ³ A
 3ó+±d Ž * • N , 4 ± 1] @În/8 "E@ð@ðÄÄ]
 ³ A ∈N g+±A Õ È • " N , %E@ð 3 ½ p
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D&P 6* GEM= 5 ^,L " ' : 6* , 3Ü+±E@ð
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 xÒæHÜçwÖ " dU ð_hU_wf ö" Â_ç • ŽX• U ççwçç wU_w ç : ! ‡ KAEÜf=çk 6=çk çü üwç • X• çd=çk ö=çU_w • ÖžöçöK
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 " ÕæHÜçwÖ ŽX•> =çk U_ç ÖfçU çü öçUf = : ! UXü wK=çwX• çd=çk ö=çU_w ÖÖžè=çU" çü ç=çf • ! è=çU" 0!
 Õæi =ç ç XŽÖfçU çü U_ç • ç_w • ! X• çd=çk ö=çU_w ÖÖžE=çk=çU AEk=çUè=ç fwüçü=ç çç wüw U_ç i wüw çü=ç=çf" 0!"
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 ÕæÖ AE= ç " AEÜ ýU q ç 6" dü P è" wUžö ¶ èçU • ç ! ç ç ç fçU çü X• ç ç ç=çU_w çü =çd Xü wüU_w U_w
 i q=ç • ÖžöçöçK! ß K@x
 ß! Õ>Uwç=ç . HžöçUf = : ! ü=çUwçf X• wç ç : ! UÂ=çdwö=çq U_ç U_w@kd AEÜ • ! Â=çw • ! ! =çç=çw • Öž¶ öi ö XKx" " ß
 ßÒ ö U_ç "ü H" Â_ç=çX" ü ç w_ç èž d Xü wüU_w U_w i q=ç X wç> ! çü üUwç> ÖÜwè=ççk U_ç ¶ U_ç çüU i • üwç ç : ! èU_wU_w Ö=çK
 ! ç çwU 6@U_w ç öÖžü wü w U_ç i q=ç " >ç çw=ç4 ¶ U_wd&ç" 0!" à 0xK@
 ßÒ Õ Â_ç=çX . ŽXü wüU_w U_w i q=ç ! ç ÖÜwè=ççk U_ç öçqçç 4 ‡ U_w ç Õæßwü öçqçç 4 ‡ U_w ç d • çf • çç ç çü " 0!@
 ß Õ Â_ç=çX . " i üçU U ç Â Äž i q=ç èüçüwç ç ç ç kçü U_w ç X Öž¶ _=ç" U ç çç k çü=ç=çf èç " 0!@ ß ß KÜ
 ßx Õ Ö AE= ç " dü P è" Xü> ç . öžö ¶ öçqçç U_w w Â_ç U_ç • kç =ç çü =çd Xü wüU_w U_w i q=ç . Öžöüw U_wU 0! " "
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