

µāÇá Óyó ÓÑ# SéÑ# ÓyúáÓ ÓÓ

' » f E 7 E/ Á ú ' 1 Õ . Ô c 3 Fz+± 4 C CWæ" -A/£

E)ì TÆw' " 0 wE <Kñß w, \ ß

%Ž-D GT " 7 Õ C " K•"K,>->-¶ œß! ß0 +0ŽŽ * ç!>? k ÈKsÈK_C " K• 4 R2(" D Û œß! 00!"o

...œ>@ÁUf E +±ú' Ô c o&U' wqç=kd' Õ . Ô c 3Fz>fçU ç=è ù ç=U U•ùU#çWÕ öd%4 5+± æ' - ý E Ä g U : 9+±N=yŽ # 86* L7 E/ Á] C CW 9+±4 NÄu ø3ú³ 3üŷ+±{ Kò> A' X æ' ÷3üŷ+±ú' Ô c æ' wç; ý ' ³ E/*U» - 7YN Ô2(4 N, +±f E ú' Ô c æ' w ; lµ & - 7YÔ c 3Fzæ' " = ' - ** 7bg Õ . +±K MÄwø3ú³ - .ú Õ . Ô c 3Fzæ' w£ 3 £ = Ì Á*U » j WK (Ü2(4 +±@@ÎZ E@ôú' " *†³ 2(4 Z/ Ç+±ç3ì TM!wß : / Ç+±ç3ì TM!µ è wõ EG DôÕ . 3Fz- ** 7bg TEM=+±ž ú - < , L4 É=• ; m@@†±K (Ü æu ¼ 67œæ +±ú Á' T wU : 9+±N=yŽ # 8 t È(Ý & 4 \$+±7œæ C CW£ ¼ 6 - Ç+±QçY T

œl[œ@ù(Kò> A' X æ' ú' Ô c Ô c 3Fz 7bg Õ . 4 C CW Z + 31" \$ Ä@xßŽ 0œœœœ' ([4 - . Äöœœœœ' 0 4C\$ Áß!!Kœ' %! ß o! ßK ßœK@

œœ(Ý N=y Ô c g -A/£ M³ S ' ³ µ G 6BÐ£ A ù 6 > E T+±Ô c K MÄ' £ h) Õ . \ L<3ì T+±"µ G!A Õ! T œ\ : -> Ç+±"59=ØÔ &AŽ+±DÀ' õ \ ¼ 6 z4>K)ç ¹ EL(K)ç +±% ì - ' " &N=y Ô c 2(4 +±T6*L-lo j \ µ P +±"N g L->@UD° T+± N=y 23ì² ¼ 6D° T+± Ç> Ó" £ A>@* r 3 V *Um6+±A Ô7bL• ¹ Õ È- FÜÔ c p R - T g Ô Ô c 6* È %U - Dp j " * * » U T D ù ç=ÿ Ô c ¹ U E @ D C ELg +± ELD™C Z - *U M4 +± È +>ñ ? æ " ß0 G E t] µ GK MÄ" m V*UL<3ì T+± Ô c æ" U 7 E @K) Ž # 8 8 ä Ä ! a +± T 6* 3ü Ä L e Fú>@%

ú Nµßì T C 00\ - .ú L<3ì T+±@@Îæ" "° ; -> 1)3E È1" , +±ç3ì T Õ . %V*UL<3ì T ú Nµ'E È &=ØÔ FÜÔ*L ž ú +±ç3ì TM!G=Øµ è " x ; *L = - WL H+±K (Ü2(4 Õ . %E .ú @K @@Î +±ç3ì T Ô c æ" - H³ *U , - Ô c • C CW 9N =yŽ # 8N=y4 +±u , %' ([K@* = Ì] U N Ô M³ Á*U³ A æ" %g ³ ¹ = ú Nµßì T C æ " "2(4 +±ç3ì T ò M"¹ • - E€"2 - È - Kc) •

M!¹ ¹ Kc) • M!%E ^ ...U - W\$%U+±K MÄ" g UN Ô2(4 Z " !A Ô È ¹ !A Ô È- £ : 6* = Ø ì -> +± ' N %g ³ @Ä æ" +±QçY T ý P " ^ ' ' 0v " ò ý ' *U - .ú 3ì T QçY Ô c • È - ú Nµßì T C Ô c • +± æ" %A æ" 6* L È Bf: 1è-> +±N , œ@@Î Ô c , %

ý ç w ò v ò ý ' +±ú ' " g ú Nµßì T C ý ' ³ - .ú Ý +±@@Îæ" %*UA æ" "2(4 +±ç3ì TM!U Ô c • Z : G=Ø' • "µ è "° G *† &2(4 L H Õ . 6 V+±ç3ì TM!% , 1)3E È L<3ì TM!\ ú ' " >@0;~+±e ð K MÄ" - É A L<3ì TM!\ / Ç+±"E D u ^ @N A L<3ì TM!\ 6*U+±"A M!œ G UK (Ü Ô c • @@ÎZ=Ø *† %A æ" & N, A ¼ 6 - Ç+± QçY T "59A6**U! D° >+±Ô c 6*Fü¹ = Ô c (Í % @Uçv @03A æ" Á*U » ä !A < p Õ g +± Õ È- FÜ Ô c Z %

3üŷ+±ú' " ? à ³ QçY T+±K MÄ"s \ %og ú Nµßì T C æ" +± - 1" æ" "° £ : 6* 1)3 % Õ • Ä †+±K MÄ%g ³ ý P T 6*¹ ¶ • T "(Ý N g T G ¼ 6 G ú 3áL•Fz4) " - , V*UG Wú 3áL•3ñ 5 ¹

= e>ñ±N =y (Î "E ^L->@A/£DðÖžÖ2(4 ++Ô
 cK MÅ%7L• ø3ú±Ô c , ++@@Íæ" Ô*L -
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 Ç- , V*U(Ý N g±Gú3âl• Ô*L±±1.ú3ñ5 '
 Ô*LA 3ñu6* %U3ü¥±±3ì T 1 N , Ô c °Z" Ô
 c u6* & 1 W7bL•±±3Fz\ *Uý.ú E C ó F Í p
 - Kb±±æ< 1 = %g 3 1 = 9 d±±1 6*" Ô c 3Fz
 ±±æ" =Øý ' %

Öüüü NÄN UN =y Ô c @@@ÍZ ý ' V*U Ô
 c 3Fzæ" !o? 1 Ô c 7bL•±±| D™ü Ô*L Ô c ,
 4 Ç±±A Ô È- %^- É Ô c 7bL• G » W"A Ô c
 7bL• ; !A Ô È- u , 1L<3ì T±± 2("E ^ B ' 3
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 L•3ñ5±±æ" \ V*U 1 N , \$ * • - < C g E C
 ó F Ô*L)3 ±±È- %UA J C !o' ±±- E? ▣
 6K 5? "/ g í p WE3? %

,%! 3ü¥±±3ì T 1 N , Ô c "V*U(/ø±±Ô c
 3FzN,, D°a] 50;~ %oÖ• ±±z 4' 1 EL(K)
 c %^- É - W%oÖ• Nž1 "FEÖðA 3Fz• U ü -
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 Ô c • 4 ± 1 Ô c • i • ±±ò â 8 "È #] Ô*L -
 † ú3âl•±±| D™ %T G • æ" \ ^|µ & L< K)K
 MÅ±4 ó WE3' \$A 59' ±±"° V*UE ±±æ<
 ? à K)±±Ô c 3FzK MÅ% s \ "v E31"0Ä" F*
 : 6* @î«] - E? %g 3 Ô c • ±±mL- Ô c u6*
 DÄ' 1 3Fz• ±±‡ Ô c DÄ' ,%- 7! "U Á*U Ô c
 3Fzæ" # "%oÖ• ±±Ö. òM"=Ø* *' %g 3 = ' -
 * *' %oÖ• Ö. mS' ±±ž ú "@Ö° ±±%oÖ• Ô
 L h mL- u6±±P M¾ 3 "U Ô c 3Fz• Z B ' 3
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 3 %s \ ^ » Í ' 3 \$ " • "E È = 3 3 E=W=Ø3
 Fz"m %oÖ• ±±F 6* È £ : 6*=Ø• F V*U" ^ »
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 G=Ø3Fz %E ^L->@B ' Ý±±æ" 1 = ' , ±±%

Y ' U) ' - .ú Ô c æu "6* &FúFü 1 N =y
 Ž # C59 Ô*L±±N , : -> Ç T ± 6 D°a ±±Qöy
 T "æ* -> U 7 E : -> Ç 8 &O£...4 \$ ±±
 ó-> C CV%Y ' ý ' 3 - .ú ' » 7 E / Á ú ' 1 Ö.
 Ô c 3Fz±±4 C CVæu "Á*U » 6>ÿSZ5) 0 m±±
 , p ' Ç5)N g %A æu6* U : 9±±N =y Ž # 8 1
 : 9±±ú3âŽ # 8 È(Ý/ Ç 1 Ô c "59A & ' NA
 ▣ 6 - Ç±±Qöy T % , ,L4 É = ; " |µ & L<3ì T
 ±±N g N , "Y ' @@@Í±Ô c • 1 3Fz• ▣ 6 D°P

±±ó-> T 1 Qöy T "6* L = ' - : 9 N =y Ž # 8 Ô*L
 ±±N , A "D°g ó->] C CVæ \$ %

Ö { Kò> A' X Ô c)3 @ç Ô c • N ,
 ü E

ÖÖÖ ' » { Kò> A' X)3 @ç±Ô c • @@@Íæ"
 *U { Kò> A' X)3 @ç =y Ô c • @@@Í"50;~ 2(4

$$x = f \%o \%u o \quad \%o$$
 ææx g 2(4 'ä . "u g Ô c DÄ' "x = ! g Ô c ,
 4 %> L->@@@Í- WÔ c ,

$$u = k \%o o \quad \%o$$
 ææ- Ä x = ! g 8 DK (Ü2(4 • m# = E / Ç
 %höi o±± =ž%æ

$$x = f \%o \%k \%o o o \quad \%o$$

 ææV*U' Y±±{ Kò> A' X)3 @çL->@ /ø { Kò>
 A' X * • V %o o %^- , ' /ø Ô c , k %o o 1 { Kò> A'
 X * • V %o o ^ \ ' » { Kò> A' X)3 @ç±Ô c • @@@
 @Íæ" m>50;~ ±±%

- .ú (« Ô c , k %o o ±±! Ô æ" \ E6 - W
 • Ç±±&± > *y * • V %o o " - Ä k %o o \$ Bâ

$$\dot{V} = V_x \%o g \%o \%k \%o o o < ! "æ 3 ! \quad \%o$$
 ææ\$ Bâ8 <±±" - .ú • Ç±±&± > *y &v #p 4 Fü
 * • V %o o / g Ô c { Kò> A' X * • %ü!o

$$\dot{u} = V_x f \%o \%u o < ! "æ 3 ! \quad \%o$$

 ææ4 ÇA Ô c { Kò> A' X * • ; " > ^ «
 ' - .ú • m^ Ç±±Ô c , % , È 7 "• m^ Ç Ô c
 , ±±...U ^ , %€ » Ô c { Kò> A' X * • ±±...U %A
 Ç)3/ g öøWV=Ç)3 %

50;~ 8 E , 1L<3ì T2(4

$$x = f \%o o + g \%o o i \quad \%o o$$

 ææ- É Ô c , E6g

$$u = k \%o o = - \frac{a + \sqrt{a^0 + b^0}}{b} \quad \%o$$

ææ€

$$a = V_x \%o g \%o o$$

$$b = V_x \%o g \%o o$$

ææFA Ô c , - Ä { Kò> A' X * • ±±) • g

$$\dot{V} = V_x \%o o \%o o + g \%o o i =$$

$$\alpha i + b \left(- \frac{a + \sqrt{a^0 + b^0}}{b} \right) = - \sqrt{a^0 + b^0} \quad \%o o$$

 ææ ' A Ô c , @Ö %æ = ! • m# = E / Ç "

A { Kò} A' X * • OE\ Ô c { Kò} A' X * • %ù!o%
A Ç)3/ g i•çWk Ç)3 %

E6 - < C±±Ô c u6* ' \$ Bà8 <

$$\dot{V} j - W \%_0 \quad \%_0$$

æœ- < C \ Ë # E=%æ=y±±**U%_0o<E d±±:

0v<3ÓÇ%! %_0o<E d±±0v<3ÓÇ"6* L r 3 V

*U2(4 Z7 S±± Ç' T %E d E-z g Dè) \dot{V}

=- W \%_0o59 Ô* L±± Ô c u6* ±±-Bf %

Ö#± ' Y±±ú ' Ô c • æ"

' Y ú ' " ±±e ð J \ V*U2(4 ±±) Ç'ã .

%_0g2(4 ±±± Ô c Fù%50;~ 8L•2(4

$$x = f \%_0 \xi_o$$

$$\dot{\xi} = u \quad \%_0! o$$

< Z "x â t" & â t \ 'ã . Fù"u â t g Ô c DÀ

' %t @æ g Ô c DÀ' "F t @Ô c ,

$$\xi = \xi' \%_0 o \quad \%_0! o$$

æœ - Ä ì %æ = ! g • m#E / Ç±± =Žã

. %7 </ g;± Ô c , %8L• Ç)34 ' 3 "- ,

EÇE=' Ö**Uξ' 1 W%_0o' /ø, L Ë Ô c , u %

50;~ %_0! o < m•.g±±2(4 "t @æV%_0o g Ô c

{ Kò} A' X * • ";± Ô c , %_0! oF* g - " - Ä

W|_{ξ=ξ'} = W_x \%_0 \xi' \%_0 o o < ! "æ: 3 !

$$\%_0! o$$

æœF Ë - 2(4 %_0! o±±- W Ô c { Kò} A' X *

• g

$$V \%_0 \xi_o = W \%_0 o + \frac{\beta}{0} \%_0 \xi_o - \xi' \%_0 o o^0 \quad \%_0! o$$

æœ59, L Ë Ô c , g

$$u = \frac{N'}{N} \%_0 \xi' \%_0 \xi_o -$$

$$æW_x \%_0 \frac{f \%_0 \xi_o - f \%_0 \xi' \%_0 o}{\xi - \xi' \%_0 o} + \xi' \%_0 o - \xi æ$$

$$\%_0! o$$

æœ- Ä

$$\dot{V} = W_x \%_0 \xi' \%_0 o o -$$

æ%_0 - ξ' %_0 o o^0 < ! "æ: 3 ! "ξ 3 ξ' %_0 o %_0! o

æœ@Ô %æ = ! 1 ξ = ξ' %_0 o g • m#E / Ç±±

=Žã . %

E d "E?• ±±Á*Uú ' " !µ & 8L• • <±±8 6

>ÿ• <±±2(4 ^ E=W' /ø • m' Ç±± Ô c ,

$$x = a \%_0 o + b \%_0 \xi_o$$

$$\xi_o = a_o \%_0 \xi_o + b_o \%_0 \xi_o \xi_o$$

É

$$\xi_i = a_i \%_0 \xi_o - \xi_i o + b_i \%_0 \xi_o - \xi_i \xi_{i+o} \quad \%_0! o$$

É

$$\xi_m = a_m \%_0 \xi_o - \xi_m o + b_m \%_0 \xi_o - \xi_m \alpha$$

æœg 3 = ì @ @ Ì" - Wα 6 • m' Ç T±±± Ô

c , ξ_o = ξ' %_0 o 1 - W Ô c { Kò} A' X * • ò M"

=@ @ @ Ì%

Ö#± f E ±±ú ' Ô c • æ"

- É2(4 \$ Bà E3T Ž # " b_i 3 ! "A %_0! o <

=•g = , 1L<3ì T±± < "

$$x = a \%_0 o + b \%_0 \xi_o$$

$$\dot{\xi} = u \quad \%_0! o$$

æœF %_0! o < Ç 3Óü g

$$u = \frac{N'}{N} \%_0 \xi' \%_0 \xi_o + b \%_0 \xi_o -$$

æœW_x \%_0 \frac{f \%_0 \xi_o - f \%_0 \xi' \%_0 o}{\xi - \xi' \%_0 o} + \xi' \%_0 o - \xi \quad \%_0! o

æœËKrN=y Ô c 2(4 ±±Ö . £ : \ F* ü %_0! o <

Ri , 1L<3ì T C±±8 6>ÿ• < mü E ±±EÐd "m

>@33üÿ ú ' " Á*U] N Ô2(4 Z "E ò M'E =y

f E %

50;~ 8L•±± 0Wã . F* Ô c DÀ' ž ú ±±1 Kc

2(4

$$x_o = \psi \%_0 o + x_o + \varphi \%_0 o$$

$$x_o = u \quad \%_0! o$$

æœ- ÉL< , 1M! φ %_0 o • m E3" F @æη = x_o +

φ %_0 o g DÀ' " U x_o } 2(4 ZL->@NĀu @ @ Ì- W6*

@_o'ã . • m' Ç±±± Ô c , %&c ; V*U3üÿ

ú ' " ±±JC " 3;± Ô c , D"TC g ËKr Ô c

, %s \ G•N Ô2(4 ±±Ö . £ : 6* @L< , 1M!

• m E3"m E >@ 4 3 1/2 %g 3 UE .ú - - 7Y

±±ò â 8 "Ë(Y x_o } 2(4 ±± Ç "B' Ô c , α =

- ψ %_0 o - x_o - " É g c @_o 1 η , %0v " F α = x_o %_0 o

+ Ü + φ %_0 o = /ø %E d " &A < QDæJ 3 Ä

$$u = \left(\frac{N'}{N} \right)^{-\beta} \%_0 u + \alpha o \quad \%_0! o$$

æœ& » - 7Yò â "η 3 α " F Ç v - 8A ì 50

2(4

$$z_o = x_o$$

$$z_o = \eta - \alpha = x_o + \varphi \%_0 o + \psi \%_0 o + x_o \quad \%_0! o$$

ææF %B o< g

$$z_B = -z_B + z_0$$

$$z_0 = u + \frac{N}{N} u - \alpha = u + \frac{N}{N} u - z_B + z_0 + \psi \%00$$

< Z "ψ = Øk <] ÆE = \frac{N}{N} \%00 z_B + z_0 o" V*U \%0! o

< "µ & \%00o < Æ ' /ø Ö. = ' - •

$$u = \left(\frac{N}{N} \right)^{-\beta} \%00 u + \alpha + v o =$$

$$\alpha \left(\frac{N}{N} \right)^{-\beta} \%00 u + z_B - z_0 - \psi + v o \%0 o$$

< Z "α = -ψ - z_B \%V*U \%00o < " & { Kò } A' X *

$$\bullet V = -\frac{\beta}{0} \%00^0 + z_0^0 o!o \hat{U} 3 \ddot{A}$$

$$\dot{V} = -z_B^0 + z_{\beta}^0 + z_{\gamma}^0 = -z_B^0 + z_0^0 \%00 + v o \%0 \times o$$

æææ v - z_B - z_0 "F \dot{V} = -z_B^0 - z_0^0 BLÇ " \ddot{A} 8 D ± 6 Kc(4

$$z_B = -z_B + z_0$$

$$z_0 = -z_B - z_0$$

$$u = \left(\frac{N}{N} \right)^{-\beta} \%00 u - Q_0 - \psi o \%0" o$$

æææA < g - W3Ö• ± ± 1 Kc3i T z } 2(4 1 - VL(3i T ± u } 2(4 %

$$W = \frac{\beta}{0} u^0 " & Q0 \hat{U} 3 \ddot{A}$$

$$\dot{W} = \left(\frac{N}{N} \right)^{-\beta} \%00 u^0 - u \%00_0 + \psi o o j$$

$$\alpha \left(\frac{N}{N} \right)^{-\beta} \left(-\frac{u^0}{0} - \frac{|u|}{0} \%00 u | - 0! Q_0 + \psi | o \right) \%0 o$$

æææ€ | u | 0 Q_0 + ψ | # "W \ BLÇ ± ± " É z 6

*y F u 6*y % & z } 2(4 59? - \dot{V} = - \sigma @i; z \ 6*y 59 A c ^] ! ± % ' " V*U \%0 o < m Ç v ± ± Ö c , - \%0" o < m • . g ± ± j W2(4 " U = \ddot{Z} . z_B = ! " z_0 = ! " u = ! 1 • m # = E / Ç %

‡ Ö c 3 Fz • ± ± ' /ø

‡ † ' Y ± ± Ö c 3 Fz æ"

Ö c 3 Fz ± ± e ð ^ \ Fö*U, .ú æ" 3 Ö c u 6* 5 E /] 3 Fz] 1 W7b 7 " µ 6* G.ú æ" ± ± 2(4 ú Á F* \ , % 9 ± ± A æ" ± ± @ @ \ ^ Ó ^ U » , .ú 3ñ 5 z 0Ä \ 5 E / " (« - < C Ö c 6* F ü & & 1 W7b

L • ? 3 E u 3 Ö v ' E C - È L † . T 6* 4 4 %

@ ð F ö * U , .ú æ" \%0 - - v E 3 1 " æ" &'

» E C ± ± 3 Fz æ" & _ J + Ö " & ! Ö Ö c 3 Fz 0 v o ± ± 3 Fz æ" " F* \ U # Ç v " F* \ - .ú L † . ± ± 3 Fz æ " " F* \ 3 € z # h ± ± † Ö c F ü % C / Ö c u 6* o L † . M 1] È K r 7 b 4 7 è

$$u \%0 = f \%0 \%0 o \%00$$

‡ † f E ± ± Ö c 3 Fz æ"

B ' Z y] g 3 @ Ö c • ± ± m L - Ö c u 6* D Ä'

1 3 Fz • ± ± † Ö c D Ä' , % - 7 ! " m * * 3 \%0 Ö • Ö . % 5 9 ö g 3 = ' - * * \%0 Ö • Ö . m S ' ± ± † ú " @ Ö • ± ± \%0 Ö • Ö * L h m L - u 6* ± ± P M 3 / 3 " 3 h ± ± Ö c u 6* ? 3 g P M 3 / 3 1 { M 3 / 3 % E F ü " g 3 U M 3 / 4 Z 3 Ö c u 6* 5 E /] 3 Fz 4 1 W7b " r 3 V*U \%0 Ö • | D T E L (' U M 3 / 4 ^ Z ± ± : 9 F 3 " F ö * U 8 L • ± ± æ" ' ' 1 = ' , ± ±

$$u \%0 = f \%0 \%0 " u \%0 - T o " v \%0 - T o "$$

$$\alpha \alpha u \%0 - \sigma o " v \%0 - \sigma o " - o \%0 o$$

æææA æ" U & € z ; † Ö c F ü v \%0 M 1] È K r 7 b 4 u \%0 7 # " E G i 5 0 z - # h ± ± † Ö c F ü v \%0 - T o 1 È K r 7 b 4 u \%0 - T o " m È K r 7 A æ" ü - ' ± ± È K r 7 b 4 u \%0 F * \ Ö . * L = ± ± " r / g Ö . Ö c 3 Fz æ" %

A æ" Y B U 7 ‹ » ' » E C ± ± 3 Fz æ" " \ e > ñ l_0 8 0 • E C Ö c 3 Fz æ" ± ± # e " ° U , 4 * • Z F ö * U 3 M È C ± ± M ! ' 4 † \%0 Ö • E L (' " û 5 9 A 0 Ä 6 * L f ‹ \%0 Ö • E L (' ± ± : 9 1 = 3 Fz (Î % A ¼ D E C K M Ä = • . g g

$$u \%0 = \frac{U \kappa}{u \%0 \alpha \Omega} = \dot{A} W_{\beta} \%0 \%0 - u_s \%0 o \dot{A}^0 +$$

$$\alpha \dot{A} W_0 \%0 \%0 - u \%0 - T o o \dot{A}^0$$

$$\Omega = \frac{U \kappa}{u \%0 j u \%0 j u \%0} = \dot{A} W_v \%0 u \%0 - v \%0 o \dot{A} \%0 o$$

< Z " u â t^m g È K r 7 b 4 " u_s â t^m g L H ± ± ' . È K r 7 b 4 " v â t^k g ; † Ö c D Ä' " B â t^{k x m} g Ö c u 6* - K b " W_{\beta} " W_0 " W_v \ , % Á 4 ! Ó ± ± p æ K b % £ Z " À ¼ Ä = À ¼ Ä_0 = • . g l_0 8 0 • % A ¼ D E C K M Ä Ñ u 5 0 ; ~ z 4 > 1 E L (' K) c " A - < C ^ A W_v Í p ± ± ; † Ö c F ü A " È K r = y Ö c F ü K ó 5 Ω = Ø Ç % & c ; U A K ó 5 Z E 6' - ^ A W_{\beta} 1 W_0 Í p ± ± \$ * • - < ± ± Ö c D Ä' ? u \%0 % A æ" : ò ! D ° z 4) A u \%0 - u_s \%0 " 5 9 A ! D ° \%0 Ö • ± ± E L (' u \%0 - u \%0 - T o %

$$t \zeta \acute{I} p - K b W_{\beta} 1 W_0 \setminus \& / K b " A \$ B \dot{A} W =$$

$$\sqrt{W_B^0 + W_0^0} gL< t / - Kb" F \quad \$ * \cdot \dot{A} W_B \%_0 -$$

$$x_B o\dot{A}^0 + \dot{A} W_0 \%_0 - x_0 o\dot{A}^0 ; \quad \$ * \cdot \dot{A} W \%_0 -$$

$$x_1 o\dot{A}^0 v \$ " < Z W = \sqrt{W_B^0 + W_0^0} x_1 = W^{-0} \% W_B^0$$

$$+ W_0^0 x_0 o\%$$

$$F \%_0 o < 6 \quad 8K \ 5?$$

$$u \%_0 = E u_s \%_0 + F u \%_0 - T o + G v \%_0 \quad \%_0! \ 0$$

< Z

$$E = \%_0 - GB \ dW^{-0} W_B^0$$

$$F = \%_0 - GB \ dW^{-0} W_0^0$$

$$G = W^{-\beta} \% B W^{-\beta} o^+$$

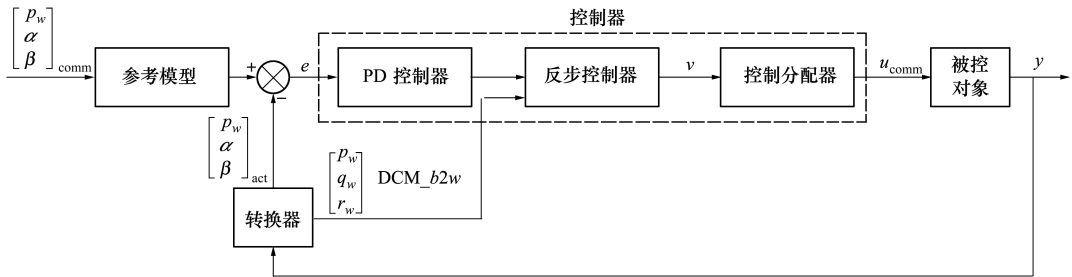
et | = •.g- Kb±±WE3ú %o%A+ = A %A o-β %
 - É %oÖ • W' (ÝNž' " FA 3Fz0Ä" ± 63i
 T\$ " • ±± <

$$u \%_0 = F u \%_0 - T o + G v \%_0 \quad \%_0\beta o$$

ææA \$ " • ±±±M¼ ' ! T*^ Í p- KbF 1 G ž
 9 à Ç %

$$8L \cdot 4 \ ' \ Y \ æ u \ j \ WK \ (\ddot{U}(4 \ \pm \ s \ + \ " \ - \ + \ \beta$$

m.g %



$$+ \beta o Y \ æ u \ j \ WK \ (\ddot{U}(4 \ \pm \ s \ +$$

ææ+ Z êÖ Ôc • BLBPµK'#(Í U ú ' Ôc • DÄ
 ' 0 ±±e i . 4 • Ö "DTM • BLBP3 g €Dj±± Fü
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< Z " k_p "k_q "k_r "k_alpha "k_beta g @ @ Îi • " U a_0 ±± @ DÄZ "
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*^ » Ç v Ôc 3Fz±±DÄ' \$1" , g 6Dj±±È
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$$T = IT_{bw} \%_0 \beta \omega_w' + \omega \times I \omega \quad \%_0 \ 0$$

6& " BŽ 7 mE ±±æ" @ @ Îú ' " Ôc • "NÄ
 u " U!A"n } 42(8 Ç v ±±"mL->@±L H>yÍ ELÓ
 \$ g

$$v = \%_0 l \alpha C_m \alpha C_n o = \frac{\beta}{S q^3} \pm k \%_0 c^3 \%_0 \sigma^{\beta} T \%_0 \times o$$

$$\omega_w' = \%_0 \alpha_0 \alpha_0 o$$

$$a_B = k_p \%_0 p_w^{\epsilon_1} - p_w o$$

$$a_0 = -k_q \%_0 q_w + k_\alpha \dot{u} \cdot \beta \%_0 - \alpha^{\epsilon_1} o +$$

$$\alpha \frac{\beta}{m V_T} \%_0 L \%_0 \%_0^{\epsilon_1} \beta "p "q "r "d o +$$

$$\alpha m g \%_0^{ref} \beta " \theta " \varphi o o o$$

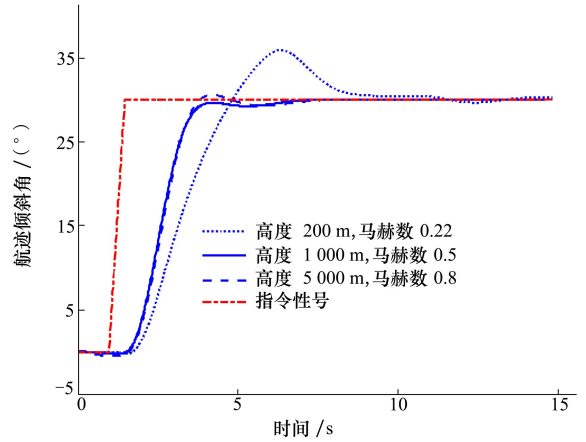
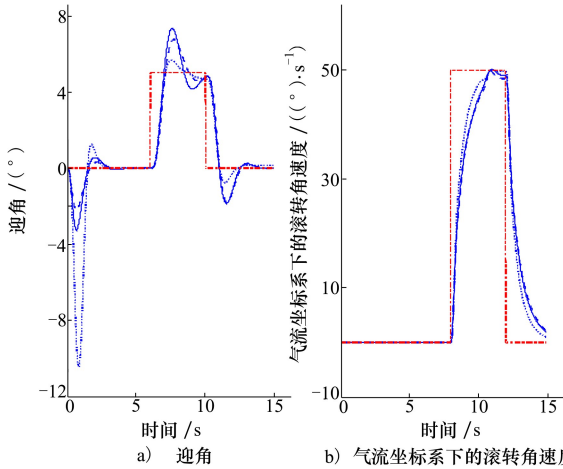
$$a = k_r \left(-r_w + k_\beta \beta + \frac{\beta}{V_T} g \dot{u} \cdot \theta = \varphi \right)$$

$$g = g \%_0 = \dot{\alpha} = \dot{\vartheta} + \dot{u} \cdot \alpha \dot{u} \cdot \varphi \dot{u} \cdot \theta o \quad \%_0 0 o$$

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 3 7E È- 2(• \$DTM g 7b4 %

p_w - \epsilon_1 U ~ \beta o x K! K\alpha B\delta g " ! / " \alpha_{\epsilon_1} U
 ~ \beta! x K! K\alpha B\delta g " o \beta_{\epsilon_1} \vartheta 3\delta g ! | % , ,L # " m 6
 i • F * \ U ! ŽMa " \beta !!!] ±±N = y Ž # 8 j Ç ±±"
 g 3 E = y & ! A ! ; " m 6 Ôc 4 ± : & i • C E:
 " & ! ŽMa " 0 ! !] " ! ŽMa " !!!] ±±N = y Ž # C E
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\gamma_{\epsilon_1} U \beta 20 x K! i \dot{E} \dot{Z} \dot{E} T] ! | , ,L 4
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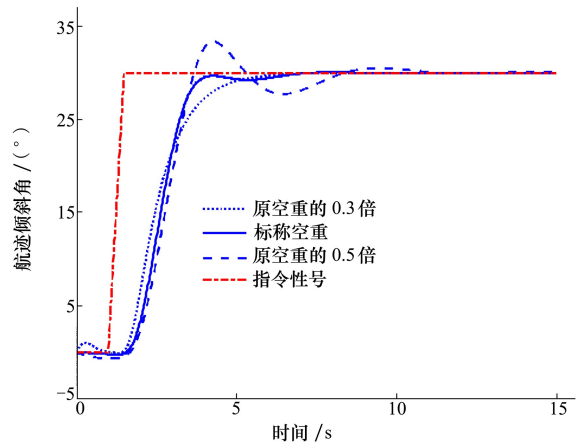
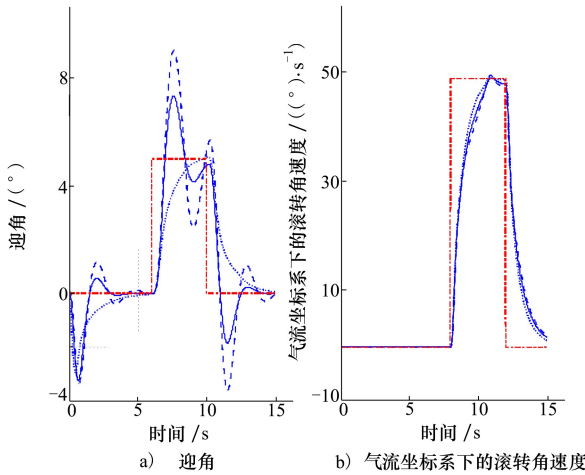


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