

JYSçãÑÑ s ys-vÑÓ yÓ ÓÑÑ SéÑÑ # úyú #ú

' » Ô > g Õ6* ÈM±x +±P B² ELN =y •
° ' c) 0Ä" -A/£

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...œ>@Áu &M±x qN• c) Z Ô > c) →*UM4 A B• ÷ c) " 7 E/ Á6* È +±K MÄWJ : DôG È
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ž ú öÄP B² ELN=y• g &ÄŽE=y° ' c) ,L 4 É=• ; & : 97W8 +±° ' (Î A c
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÷ 3ÓCEFü" €7W>ÿ| T » Däy i # k Ô>ÿúD™%
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%æ7W>ÿ| " ÖGB. ' B. T ?! - ° ' X0 p*L
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Q52Í p Ä] • - CA *U » Ô > B• ÷ 3ÓCEFü%
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 >ÿú D™# g "£ & T!A ó Ó¹ N=y• !A Ö i • E =y
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Öt ° ' DýÖ æ/8

P B² ELN =y• - 7YFö*U Ô#p>ÿ& Ö È#p
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)0 B È J₀ M!q Ö "U j ð ' 5• } 42(8 ' / ð FÜ3ß
 ±±67 *^ Ó ° ' DýÖ æ/8 œö

$$\frac{1}{r^{3/4}} \frac{d\tilde{A}}{dt} = -\tilde{E} - g_r \tilde{A} \Rightarrow \tilde{A} \dot{\gamma} = \tilde{\psi} +$$

$$\frac{\gamma}{r^{3/4}} \frac{d\tilde{A}}{dt} = \frac{\tilde{A} \dot{\sigma}}{\tilde{A}} + \frac{\tilde{A} \dot{\gamma}}{r^{3/4}} - \frac{\tilde{A} \dot{\gamma}}{\tilde{A}}$$

$$\frac{d\tilde{A}}{dt} = \frac{\tilde{A} \dot{\gamma}}{\tilde{A}} + \frac{Q\tilde{E}}{\tilde{A}} \dot{\psi} \dot{\gamma} \dot{\phi} +$$

$$\frac{d\tilde{E}}{dt} = \frac{\tilde{E} \dot{\gamma}}{\tilde{A}} \dot{\psi} \dot{\phi} + \Rightarrow \tilde{\psi} \dot{\phi} = \tilde{\phi} \dot{\gamma} \dot{\psi}$$

$$\frac{\dot{\psi}}{dt^{3/4}} = \frac{\tilde{A} \dot{\sigma}}{\tilde{A} \dot{\gamma}} - \frac{\tilde{A} \dot{\gamma} \dot{\psi} \dot{\omega} \dot{\phi}}{r^{3/4}}$$

$$\frac{d\tilde{A}}{dt} = \frac{\tilde{A} \dot{\psi}}{\tilde{A} \dot{\gamma}} + \frac{Q\tilde{E}}{\tilde{A}} \dot{\omega} \dot{\psi} \dot{\phi} = \tilde{\psi} \dot{\phi} - \tilde{\phi} \dot{\gamma} \dot{\psi}$$

$$\frac{d\tilde{A}}{dt} = \frac{\tilde{A} \dot{\psi}}{\tilde{A} \dot{\gamma}} \Rightarrow \tilde{A} \dot{\psi} = \tilde{\psi} \dot{\phi}$$

$$\frac{\dot{\psi}}{r^{3/4}} = \frac{\tilde{A} \dot{\gamma} \dot{\psi}}{r^{3/4} \dot{\phi}}$$

$$\frac{\dot{\phi}}{r^{3/4}} = \frac{\tilde{A} \dot{\gamma} \dot{\psi}}{r^{3/4}}$$

< Z ä%œ=•g FÜßFü+³/g #K! #Ä g P B² ELN
 =y• ° ' ELÓ +ÿ g 7V&E>ÿÿ g 7W>ÿ>ÿ+³/g N =y•
 BUð j] ð +±C .è ð g 3ü Ó ð g] ð 3ÜÓ +ÿ g k
 Ô>ÿ +Ä¹ ð 3 X g t È¹ KhÈ +ÿ g])07 D™#EL
 Ó +Ä¹ g_φ 3 X g B È Í ELÓ ± > 3Fü¹ } u > 3
 Fü %Ä¹ ð g_r 1 g_φ ±±@ÐÄ™< - 8 m.g ä

$$\tilde{A} = \frac{\rho \tilde{V}^0 C_A S R_c}{Q_n} \quad \%80$$

$$\tilde{E} = \frac{\rho \tilde{V}^0 C_{\sigma} S R_c}{Q_n} \quad \%00$$

$$g_r = \frac{\beta}{r^{3/4}} \left(\beta - \beta J_0^{1/4} \frac{\tilde{\phi} - \beta}{r^{3/4}} \right) \quad \%00$$

$$g_{\phi} = \frac{J_0 \tilde{\phi} \dot{\psi}}{r^{3/4}} \quad \%80$$

< Z äp g T!A ó Ó +m g N=y• BUFü+ÿ g N=y• !A
 Ö i 50L/ +ÿ g])0B'E€w ± €_Ä¹ C_ö 3 X \ N
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 B• à Ç %

° ' DýÖ æ/8 3ñ Z Ô c Füg h>ÿ α¹ k Ô>ÿ
 σ %^ » h>ÿ \ ž ú ° ' g Ö80! & N=y• !A Ö!
 T¹ N=y& È " (Ü° ±±! Ò 2M'M³n A T r A0j
 h>ÿ 3 È Í c) 2(4 & Ô2(4 ¹ & K_Ñ2(4 BLò "
 ' h>ÿ - 7Y, u @ @Í= » O B• ±±3 â 3i T *
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$$\alpha =$$

$$\begin{cases} \alpha_{\beta} "œœœœœœœœœœ Ma & Ma_{\beta} + \\ Ma - Ma_{\beta} \%00 - \alpha_{\beta} 0 + \alpha_{\beta} "œœœœœœœœœœ Ma & Ma_{\beta} > Ma & Ma_0 + \\ Ma_0 - Ma_{\beta} \\ \alpha_0 "œœœœœœœœœœ Ma & < Ma_0 \end{cases}$$

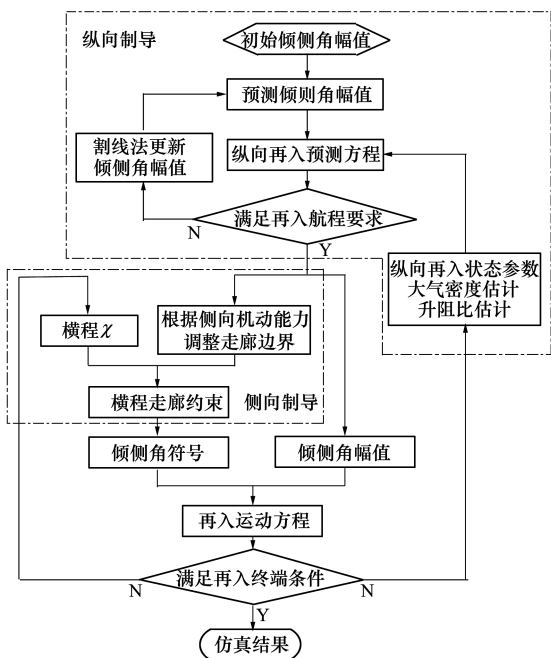
< Z äα_β g - TN=yh>ÿ +_0 g - T t KH & Á h
 >ÿ +Ma_β¹ Ma_0 f > 7W8 L-!o-> Ç %3 k Ô>ÿ %0g
 ° ' h>@Ô c FÜ %° ' Dð8 & "n & Ö , ¹ DÐ³Ó
 CE"° ' 3ë0 >@ Bðj %æ 4>@0 %

#± M±x f N • c)

P B² ELN =y• ° ' N=y# "U - Wc) • L
 2 " & ° ' 3â>D•E&E =yM±x "f > 7W8 | N • k
 Ô>ÿr i "£ V*U3â> c) → Ç ±±k Ô>ÿr i * •
 M±xN =y• Ô > g Ö6* È "A0j Ô > B• ÷ ê Ó"Ô c

k Ô>ÿ0S\$ %Ä] k Ô>ÿ±r i ¹ 0S\$; " ^
 f > € z N=yã . ¹ ° , DýÕ æ/8 %Bo 2%oo < ",
 ,L @ÐÄY c) • L² ±±67 *^ Ó ° , D•E&%E ' 8
 - c) • L " - ' x (Ü ", !] \$ Bâ ° ' 3ë0 Ž # " -
 N=y• N >9j %æ 4) %M±x qN • c) EhD³s + -
 + ßm.g %

$$|\sigma| = \begin{cases} \frac{\sigma_x - \sigma_\beta}{V_x - V_\beta} \% - V_\beta o + \sigma_\beta \% \sigma V_\beta & V > V_x + \\ \frac{\sigma_x - \sigma_0}{V_x - V_0} \% - V_0 o + \sigma_0 \% \sigma V_x & V < V_0 \end{cases}$$



+ ßœM±x qN • c) EhD³s +

#Ž± 3â > c)

3â > c) EÐðâ > ° , M±x æ/8 @ÐÄ\$ Bâ ° ,
 3â > 3ë0 3ÓCE±N =y7W8 " ; € z ÈKr - † 7W8 !
 D° ; V*U" M-ÿ3i" -> Ç0S5 7W8 >@o ±k Ô>ÿr
 i 4 %

g EL/ 3M±x 3â > ° , D•E&" U ° , DýÕ æ
 /8 %Bo 8%Bo 8%Bo < ±±' -m7 " * * '] 07 D™É ú ÷
 B È q Õ" Ä ò ; ï • IÄ³γ r³/4% ±±3â > ° , M±
 "x æ/8 %

$$\frac{\gamma \dot{V}}{V^3/4} = -\frac{\dot{V}}{V} - \frac{\dot{\gamma}}{r^3/4} \quad \%00$$

$$\frac{\gamma}{V^3/4} = \frac{\dot{V} \cdot \sigma}{V} + \frac{\dot{V} \cdot \gamma}{r^3/4} - \frac{\dot{\gamma}}{r^3/4} \quad \%0$$

$$\frac{\dot{\gamma}}{V^3/4} = \dot{V} \quad \%0x0$$

œœßâ > c) >@U3i -> Ç k Ô>ÿr i "L- & £E =y
 ï • C 1)3 " 3Dð8 (EK MÄ™C g , ï • l 2CK
 MÄ%

< Z ãV"V_0¹ V_x 3 X g ° , Bæø%æø , 3ë0 ¹ °
 ' Dð8 Z ý - # h±±ELÓ ±σ_β"σ_0¹ σ_x \ ; x,%&
 Á±k Ô>ÿr i ±σ_β"V_0¹ V_x¹ σ_β"σ_0 t g -> Ç i %
 U (< V i 8 " | σ | K 1/σ_x , AÆ?È " i • σ_x * U' ->
 ÇK¹ELÓ C±k Ô>ÿr i 3i %
 4 Ç J ø k Ô>ÿr i * • "U- Wc) • L²"
 € z ° ' 'ã . g J ø FÜ & 3â > ° , M±x æ/8 ÷
 %Bo o < / 3 " * * 7W8 >ÿ | " 0Ä'] ° , 3ë0
 ±±M±x 7W8 %

$$\frac{S_{qc}}{V^3/4} = \frac{\dot{V} \cdot \gamma}{r^3/4} \quad \%0$$

œœÈKr - † 7W8 S_wk. g N=y• € z z 4) %"φ o]
 9j %æ 4) %φ_φ_o ±T 3 T J - %

$$S_{wk.} \% \dot{V} \dot{\gamma} = \dot{\phi} = \dot{\phi}_f + \dot{\gamma} \phi \dot{\gamma} \phi \dot{\gamma} \phi \dot{\gamma} - \theta o \quad \%00$$

œœk Ô>ÿr i ï • σ_x¹ M±x 7W8 S_qc x K! g , A0
 L(3i T 2 ("EÐð M-ÿ3i" ELI (] 5 E/
 ±±σ_x i " -M±x 7W8 S_qc 0v » - † 7W8 S_wk. "E @Í
 0Ä™™ < g

$$\sigma_x \%o + \beta o = \sigma_x \%o -$$

$$\frac{\sigma_x \%o - \sigma_x \%o - \beta o}{S_{qc} \%o - S_{qc} \%o - \beta o} S_{qc} \%o - S_{wk.} \quad \%0$$

^ (6 -> Ç € z c) • L² ±k Ô>ÿr i 3i "L
 =3â > c) 4 %

#Ž± Ô > c)

Ô > c) ±±, ±± \ -> Ç k Ô>ÿú D™É g " -N
 =y• U Ô > L² N >9j %æ 4) %U\$ Bâj %æø Ó
 >@o ±±z ý 8 " ° , Dð8 k Ô>ÿú D™É • : ÉDðG "
 z Í Fú, Ô2(4 BLò " A k Ô>ÿú D™É G B Bæø
 ' D•E&C Bð%

Ô > c) - 7Y EÐð' » \$ < Ä 3i ±±- Ô c æ
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 >ÿ C W8 A B • ÷ Dæy " € ÈKr ° , Dð8 Z 7W8 >ÿ
 C W8 | B²Dôm @@@ ±±Dæy i # k Ô>ÿ0S\$ ú
 D™É B • ÷ Dæy ±±T < ; 3â > c) mÄ±±k Ô>ÿr i
 * • ó 4, % " g D° T ±±k Ô>ÿr i G É Í t È
 U Ô > ±±3 Fú" B Bæø T ±±7W8 >ÿ¹ W8 C "L ->@

@@Î- WD°T±A B• ÷ Dæy E-z k Ô>ÿúD™N
 • DôG ú x "D° < ± k Ô>ÿ r i L->@@@Î° < A
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 %æ 4> %E 1" æ" >@o ° ' Dô8 Z k Ô>ÿ r i * •
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 W8±±: 9 , uA0j A B• ÷ Dæy %U Á & : 9 °
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 lµ & 7 E K MÄ" @@@B• ÷ Dæy Ö . C±± Ô
 > c) 0f* " %U ∈ z c) • L ² "EÖâ > c) ->
 Ç k Ô>ÿ r i * • ; "V*U3â> M±x D•E&i • @Î
 0ÄN =y• t È Ô > 3 Fû±±t i J™U =• @N =y•
 Ô > g Ö6* È %

$$J = \frac{\beta}{t^{3/4} - t_n^{3/4}} \int_{t_n}^{t^*} \sigma | \nu^{3/4} \quad \% \text{B o}$$

< Z â r ¼ g ∈ z # h + ¼ g M±x 3ö0 # h %
 ° ' Dô8 ZN =y•] 9j %æ > ô3i > ÿ g

$$\psi_{\hat{A}i} \% \text{L} \mu \mu \left[\frac{\epsilon_i \%_y - \theta_0}{\dot{u} \cdot \phi \nu \mu \phi_f - \epsilon \phi \dot{u} \%_y - \theta_0} \right] \quad \% \text{! o}$$

7W>ÿ | µ/ Ç v g ûN =y• 4 > 9j %æ± Fû;
 ELÓ U ∈] !a L • Â ž - Fûx K! ±±f > ÿ %
 µ/ = !° - ψ - ψ_{\hat{A}i} \quad \% \text{!Bo}

W8 X ; S_{wk} " µ/ ±± 2(g
 λ = Uû ε %_o = S_{wk} ε µ/ o \quad \% \text{!0o}

ææ° ' Dô8 Z ",%& » 7W>ÿ | "W8 CD°g
 4@ Ç "r E6 W8 %og Ô > B• ÷ 3ÓÇ Fû %N =y
 • Ô > g Ö6* È B• g "W8 B• ÷ Dæy @â] B• T "
 ü > k Ô > ÿ ú D™N • "9 # "g -> Ô > 9j %æ Ö Ó "
 N =y• B• ÔDp 4 %æ B• ÷ Dæy ÁA B• < " Dæy i
 K¼ † 7W8 S_{wk} ±± ü < 59 ü < % ' "@@Î° \% o
 < m.g ±± W8 B• ÷ Dæy " £ i f > ° ' N =y• Ô >
 g Ö6* È Ö . A0j %

$$\mu k = c S_{wk} \sqrt{J} \quad \% \text{! o}$$

< Z "c g W8 B• ÷ Dæy 2(• %æ B• < W8 B• ÷ 3ÓÇ
 B• R i "° ' Dô8 k Ô > ÿ ú D™N • B• G " Ô > c) 1ë
 ÓB• P "ú x "3ÓÇ B• ê « "ú D™N • B• > " Ô > c)
 1ë ÓB• { %U : BBæâ > ° ' D•E&M±n C Bð 1 È Í
 , Ô2(4 BLò ±±z ý 8 " Á j FûE6 D° < ±± B• ÷ Dæ
 *y 2(• %

Ô > c) 0f* =•E g â ∈ W8 \$ Bâ l X l < µ
 ±± Ž # # "k Ô > ÿ 0S\$. : " ∈ W8 B² ' B• ÷ Dæ

*y i # "k Ô > ÿ 0S\$ ú D™ £ 4! . ∈ z 0S\$ 4 4 N
 =y"!] 8 N W8 B² ' - Ô B• ÷ Dæy i # ° N ú
 \$ % £ =• Dë < ü E g

$$k_i \%_o = \begin{cases} \beta'' & \chi & \mu k \\ k_i \%_o'' - \mu k < \chi < \mu k \%_o x \\ - \beta'' & \chi j - \mu k \end{cases}$$

Ž ± i •] @Î

P B² ELN =y• ° ' Dô8 Z T !A ó Ó & Mûg 0v
 i • ±±: -> Ç T • Ô & !A Ô È ž ú D° T %g ý P 3â
 > ° ' M±x ±±ò -> T "L- f > È KrN =y'ã . & 4 ó
 T !A N , E =y • %

*^ T "x Fû3ñ 5 ±± DÄ' Ä ° ' # t È Í ELÓ
 1 Kh È Í ELÓ ±± x Fûi "3 X @ Ÿ â â 1 â_0 % V*UKh
 È Í ELÓ @ Î Ä™ < "6*0Ä' & Á Kh È Í ELÓ â_0 ±± T
 !A ó Ó] @Î i ρ

$$\rho = \frac{Q_i \delta \left(\frac{m}{C \delta S} \right)}{V^0} \quad \% \text{! o}$$

< Z " %_o_{e1} =•.g 4/ !A Ô i • %

*^ T !A ó Ó] @Î i ρ 1 4/ T !A ó Ó ρ_{e1}
 Ä] T !A ó Ó • } K_ρ

$$K_ρ = \frac{\hat{\rho}}{\rho_{e1}} \quad \% \text{! o}$$

ææâ > ° ' M±x # "U %_o o < @ Î Ä ±± T !A ó Ó
 • } & 4/ T !A ó Ó E =y • " • ; ±± T !A ó
 Ó g

$$\rho = K_ρ \rho_{e1} \quad \% \text{!Bo}$$

ææ È Kr Á *U Z " T "x Fû3ñ 5 DÄ' ±± Kh È Í ELÓ
 â_p \ S 6 "x Fû — ±± \$ "L-Fô*U- Kc{ E\$ " •
 & T !A ó Ó • } K_ρ E =y"µ — 1) 3 %

$$K_ρ \%_o = \% \text{B} - k_ρ^\tau \alpha K_ρ \%_o - \beta_0 + k_ρ^\tau \frac{1}{4} \frac{\hat{\rho}}{\rho_{e1}} \quad \% \text{! o}$$

< Z â K_ρ \%_o =•.g ∈ z # h T !A ó Ó • } "K_ρ \%_o
 - β_0 g 7 - # h i + k_ρ^\tau g - Kc{ E\$ " • È ±± 2(
 • % k_ρ^\tau U ! ~ β x K! i " £ i B• B_p » ! " & P M %
 Ô ±± ¼ c u É B• ; k "k_ρ^\tau ±± @ Î Ä < g

$$k_ρ^\tau = \beta - 4q \left(- \frac{\mu}{\tau_p} \right) \quad \% \text{! o}$$

< Z â r_ρ g \$ " • # K! e • +µ \ T "x Fû3ñ 5 DÄ'
 ' \$ ±± K! KÄ # K! %

° ' Dô8 Z (Ü ° 2M' N =y• 7 CØ -> Ç T |
 & È Kr t KH 6 µ T ž ú % ' "t KH U3i
 • CÆ ý P 3â > M±x 1ë Ó ±± Fû > @ Ü 7 % ; T !A ó Ó
 • æ" ,% 9 " @ ä KH • } K_{LD} g

$$K_{L/D} = \frac{\hat{L}/\hat{D}}{\%_{\sigma}/D o_{\epsilon^1}} \quad \%_{\sigma}! o$$

< Z âĤ/Ĥ \ t KH] @îi " £ @ĤÄ< g %oßo < +
 %σ/D o_{ε^1} \ 4/ t KH " £ @ĤÄ< î %o0o < %

$$\hat{L}/\hat{D} = \frac{\hat{a}_{\hat{A}}}{\hat{a}_{\hat{O}}} \quad \%_{\sigma}ßo$$

$$\%_{\sigma}/D o_{\epsilon^1} = \left(\frac{C_{\hat{A}}}{C_{\hat{O}}} \right)_{\epsilon^1} \quad \%_{\sigma}0o$$

œœ9 d " & t KH • } K_{L/D} E =y - Kc{ E\$
 " μ — 1) 3 %

$$K_{L/D} \%_{\sigma} = \%_{\sigma} - k_{L/D}^{\tau} \alpha K_{L/D} \%_{\sigma} - \beta o + k_{L/D}^{\tau} \frac{1}{4} \frac{\%_{\sigma}/\hat{D} o}{\%_{\sigma}/D o_{\epsilon^1}} \quad \%_{\sigma} o$$

$$k_{L/D}^{\tau} = \beta - 4q \left(- \frac{\mu}{\tau_{L/D}} \right) \quad \%_{\sigma} x o$$

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$$\tilde{L} = \frac{\beta}{0} K_p \%_{\sigma} \alpha_{\epsilon^1} \tilde{V} K_{L/D} \%_{\sigma} \alpha \left(\frac{C_{\hat{A}S}}{m} \right)_{\epsilon^1} R_e \quad \%_{\sigma} " o$$

$$\tilde{L} = \frac{\beta}{0} K_p \%_{\sigma} \alpha_{\epsilon^1} \tilde{V} \alpha \left(\frac{C_{\hat{O}S}}{m} \right)_{\epsilon^1} R_e \quad \%_{\sigma} o$$

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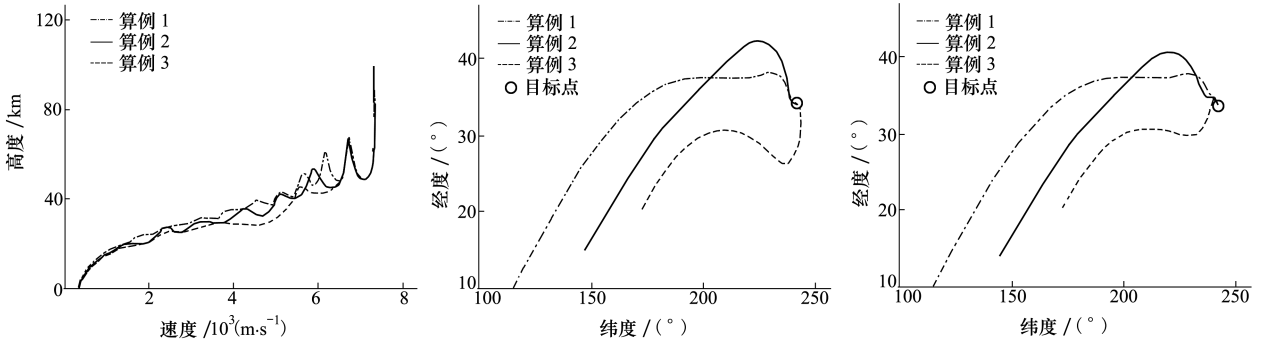
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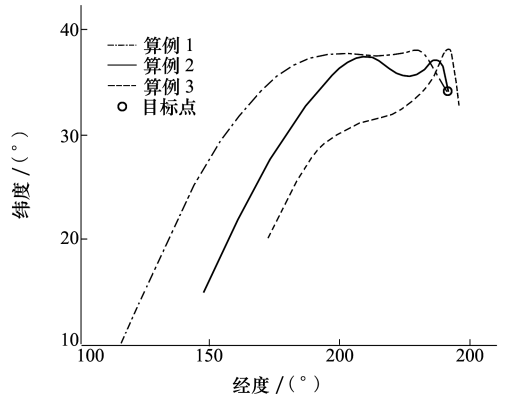
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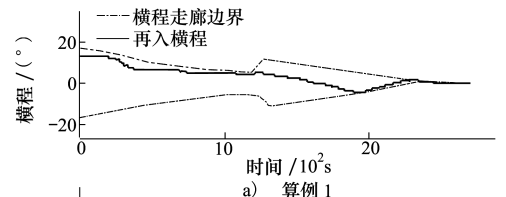
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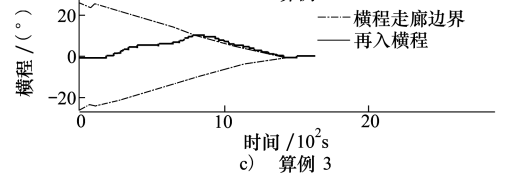
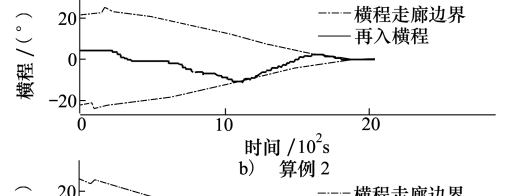
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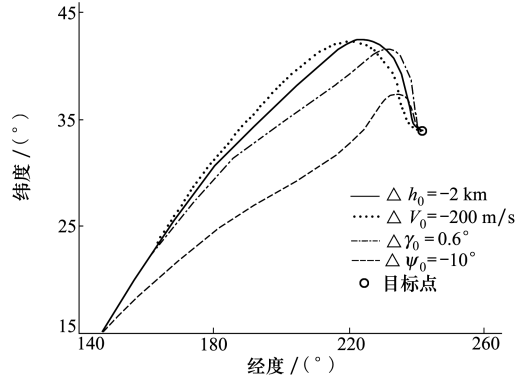
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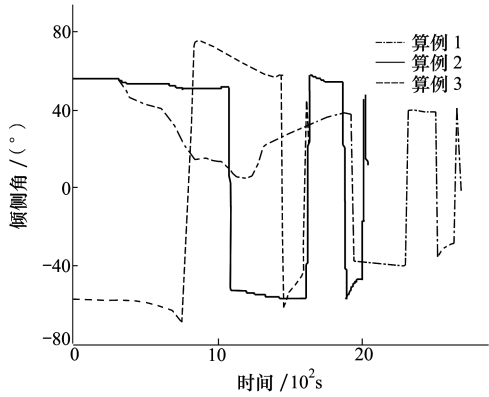
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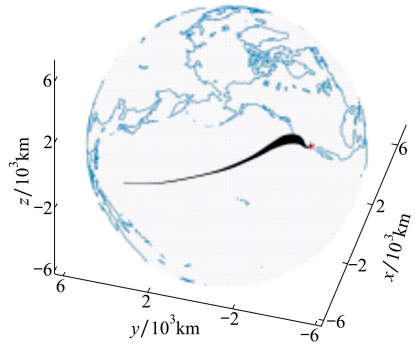
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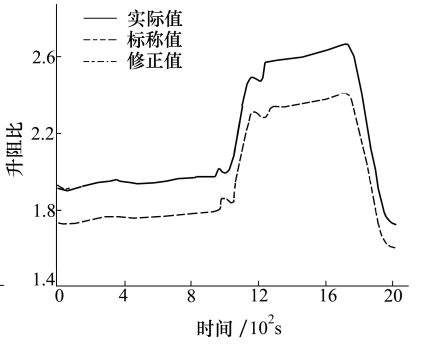
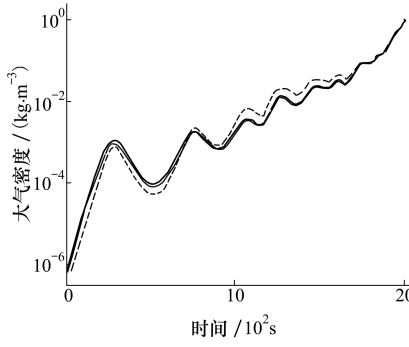
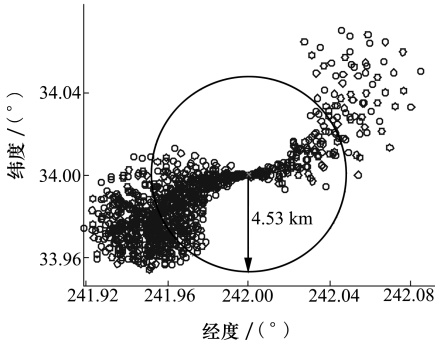


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