

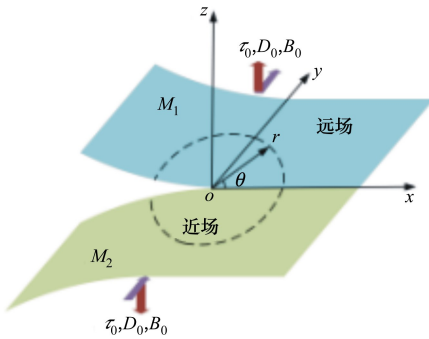
xî § " µ § " " µ § " " µ § " W k M " x[§ " § " 5 § " W % § o
ææ , æ/8

l § k N § " æ § kf N § ~ " æ 5 § kf N § p " % § o

ææ =žæ/8

î Nî " j Nî " j p " k !
î Nµ " j Nµ " j E " k ! % § o
î N' " j N' " j Ç " k !

< Z " " ~ " 1 p " 3 X g ú L • z / (& b ì 1 -î
ì +î § " µ § " 1 " § \ Á È & b z / (1 -î L Á g Ó 3
Fü +î § " § " 1 5 § \ Á & b g g Ó 1 -î g g Ó 3
Fü +î § " § " V " g f T & , * b & , -î 1 * b -î 5 S
5 e • +î § " § " g ø * b e • 1 -î EQ ' +p " E " 1
Ç " \ € È & b 8 * 1 * b " n ó Ó + § k " e " 7 4 = • g
} Æ g 4 C \$ " M " g } Æ e • - Kb " > î K q
, % § k § o



+ ßæ X = î 3 æ b - î f T : 5 4 ±

Y ' - * U + ± b - î f T } Æ , p g ~ 7 % æ D æ
, p %, p ² (< % æ W F ü ^ 7 % æ W F ü = • g

x " ~ " " p " W k ® ÿ . x " ~ " p " W % § o

< Z " ÿ . \ • * • %, p ì 6 * = • g g

{ " k Ü " } - f

æ Ü " j E " ~ j Ç p " o } - " % § o

< Z " | " g Á 6 * ó Ó * •

! " k - ß " o ε " f % o E " f % o o H " o Ò
% § o

< Z " σ " k x î " î " W " D " k x µ " µ " W " B " k x ' " " " W " ε " k x [" [" W " E " k x f " " "

f " W " H " k x f 5 " " f 5 " W %
3 % § o < 8 % § o < 1 % § o < S ' " o < Ä

{ " k - ß " o K " f P u " % § o

< Z " P g 0 v u 7 % æ 8 " µ " g , p 7 % æ / (> F ü
u " k x " - " " - " ~ " p " - " p " W %

f > - < ì 6 * ì) 3 { " k ! " Ä
K µ " k P % § o

< Z " K " \ , p G Ó - Kb % f > 7 % æ C \$ " 3 ñ K ó
€ G Ó - Kb & % æ / (> F ü 1 ; € D 8 > F ü " Ä * b
- î ú L • 6 K } p D < g

é K " K " u } k { f }
é K " K " u } k { f }

< Z " K g G Ó - Kb " f g 8 " D a > F ü " 8 4 ¶ 1 è 3 X
= • D p g 1 E g g %

‡ * b - î f T } Æ s , * y L • Ú = î D È æ "

UD p g g " Ç v • ' ä . > F ü g

ψ " k x q " p " W k

x " ~ " " p " " + " + " - " W % § o

F * b - î f T : 5 } Æ • , * y L • Ú = î K M Å ± ò ó M - Ò
c æ / 8 = • g g

N " k H " ψ " % § o

< Z " H " g ò ó M - Kb " > î K q , % § k o % * y L • E 4
ž # g

q " s F k ! k q " s F k ! " R " g q " s F k ! k R " g q " s F k ! % § o

= î 3 æ • D æ ž # g

R " g q " s F k k ! " R " g q " s F k k ! % § o

< Z " g k - N " f ß " f ß %

V * U 3 . è F ü ! l o ? ò ó M - æ / 8 % § o " £ 4 5
% § o < 1 % § o < Ä] K M Å ± D È Y @ i 1 Y @ ? " > î
K q , % § k 2 ö k % ' " ù } Æ b - î ú L • + ± z / (" * b ì 1 - î ì = • g g

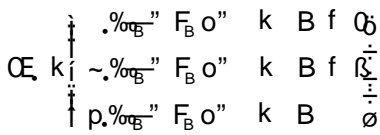
q " k () p q " §

< Z " 9 \ m + ± Y @ ? M ! • " p § g ² Ç 2 (• %

ú† DÈè • 6 K} p æ"

*^ %&xo < "Dpg g ² 7%æV FÜ =•.g g
 $u_{\dot{y}} k\Phi c$ %B" o

< Z "c k x p_{\beta} " p_{\beta 0} " p_{\beta} " p_{\beta} " - " p_{\beta} " p_{\beta} " - "
 p_{\beta} W g DÈ, - * • +±² Ç2(• > FÜ



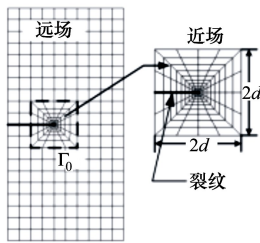
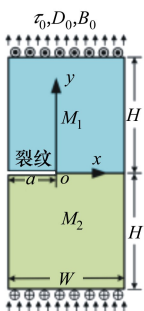
%B k \beta" 0" - " \ddot{y}_{\dot{y}} + \bullet k \beta" 0" - " 9 j o" \ddot{y}_{\dot{y}} g Dp
 g g ² h 7%æ "%_{\sigma} F_{\beta} o \ 0Y B W 7%æ±® }
 4 %3 %B" o < ' %o o < " F * b - î ú L • Ú=i K MÄ
 +±DÈè • 6 K} p =• Dè < g

$$\begin{matrix} \Phi & K_{11} & \Phi & \Phi & K_{12} & \left\{ c \right\} & k & \left\{ \Phi f_{\eta} \right\} \\ \Phi & K_{21} & \Phi & K_{22} & \left\{ u \right\} & & & \left\{ f_{\xi} \right\} \end{matrix} \quad \%B \ o$$

¼ g Ó } ¹ 6*FüF÷k('

*^ %&o < ¹ DÈY ®? - " U=i 3æC0 %_{\sigma} %_{\sigma}
 =• Ó† } AEi •

} AE	÷_{xx}	N_{\eta} ¼]^{q_0} o	\tilde{a}_{\beta} N_{\beta} ¼]^{q_0} o	J_{\beta} N_{\eta} ¼ %_{\beta} ¼ ö o^{q_{\beta}} o	[_{\beta\beta} N_{\beta} ¼]^{q_{\beta}} o	V_{\beta\beta} N_{\eta} ¼ %_{\beta} ¼ AE o^{q_{\beta}} o	\tilde{\sigma}_{\beta\beta} N_{\eta} ¼]^{q_0} o
9_{\beta}	xyx	\beta^{\beta}	"y	0@	"y x \beta^f	"y @ \beta^f	f 0y @ \beta^{f x}
9_0	yx	\beta^{\beta}	xy	\beta "	xy x \beta^f	x \beta^f	f 0y \beta \beta^f x



a) 几何尺寸

b) 有限元网格

+ 0æ XDæi 3æb-î f T- Kb-

!o ß Ò" - v Á È g Ó } =•.g g

K) k x p " p_{\mu} " p W k

$$\alpha \pm \sqrt{0} \frac{1}{F} x \dot{y} \mu_F \mu_F \mu_F W \Big|_{Fk!} k$$

\alpha! y \sqrt{0} M %_{\beta} x p_{\beta} " p_{\beta} " p_{\beta} W %B@

< Z " p " p_{\mu} ¹ p 3 X g Á È g Ó } & b z / (g
 Ó } ¹ - î L Á g Ó } " \ ^* ú L • - Á È Ô"
 L • ² * b z / (\mu_1 ¹ - î L Á g Ó ' , 5S5 %*U+±4
 È %6*FüF÷k(' g

) k \frac{\beta}{0} x p " p_{\mu} " p W x p " p_{\mu} " p W %B o

< Z " È k %B %_{\beta} o^{f \beta} j %B %_{\beta} o^{f \beta} Ò Ñ %

± • i 0Ä,

g O 1 @ î Y ' y ' æ" +±• -> T ; 6 u T " • i
 0Ä, @ ð Ä³ .ú ¥ , =i 3æ & Á +± Ú=i ï • % Y 7 Z
 m 6 @ ð Ä • > t F ð * U F ü ß • < ß Ò " " ¶ ÷ +± } AE i
 • - =• \beta m .g %

yÓ† 0Ä, Ó

50; ~ \beta W] t 0 8 \mu^a %*U+± X Dæ i 3æ b - î f
 T } AE • - " \mathcal{E} , g %¹ 6 K} p 4 - i - + 0 m
 .g % Ô k \beta " \mu_1 k \beta " , k \beta " • k ! y " 9 " 9_0 k 9_{\beta} =• 0
 4 ' ³ : 9 P Ó¹ è Ó 8 1 t / '-) 3 g +± g Ó }
 ¹ 6 * F ü F ÷ k (' % ^ \gg 4 \pm \gg D_j & / " r 6 \beta^M k
 \beta_{\mu}^M k \beta^M k \beta^M \beta^{\beta} % \hat{u} =• Z • > , 8 ' " 1 g Ó
 } ; 6 * F ü F ÷ k (' t K ¹ P Ó¹ è Ó +± È Í 59 ü < " \mathcal{E}
 AE \# = B_{\beta} D_p \gg / Ç i " 5 > ¹ é > & Á +±
 i \beta_0, \beta_0 % \in \mathcal{E} \hat{N} k " \# " - TA ò g \beta \beta " % \mathcal{E} =•
 ; Y ' æ" \approx 6 7 \alpha^{\pm} + \pm @ \hat{D} \hat{A} 1 è Ó " 6 * L 6 u @ \hat{D} \hat{A} X
 =i 3æ b - î f T } AE \pm Ú=i ï i • %

=• #‡ : 9P Ó¹ ê Ó& Á±g Ó } ¹ 6*FüF÷k(´

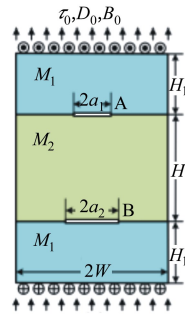
é Ñö	5 Ñö						
	!y'	ß	0	x	>	ßö	
ßy'	Æ ^M	ßyßßß	ßy0 "	ßy0 0!	ßy0 ß	ßy0 ß	ßy0 ß
	)	ßy' ß x	ßy ß	ßy0 ®	ßy0	ßy0	ßy0
0	Æ ^M	ßy !	ßyß0 !	ßyß0	ßyß0x	ßyß0x 0	ßyß0 x
	)	ßy'! "	ßy! ®ß	!y x	!y ß 0	!y ß ß	!y
x	Æ ^M	ßy ®	ßyß"®	ßy! "	ßy! " ! ß	ßy! x	ßy! " ! ß
	)	ßyx ®	ßy! "	!y ® !	!y x	!y 0 "	!y x
"	Æ ^M	ßy "	ßyß" ß 0	ßy! " ß x	ßy! ! ®	ßy! 0 ®	ßy! 0®!
	)	ßyx ! ®	ßy! x®	!y 0	!y !	!y 0 "	!y 0®ß
ßö	Æ ^M	ßy ®®	ßyß"! x	ßy! x	ßy! 0" !	ßy! ß	ßy! ß®!
	)	ßyx ß	ßy! x	!y x x	!y 0	!y ß ß	!y ß!
> ßö	Æ ^M	ßy ®®	ßyßx	ßy! x "	ßy! 0ß	ßy! ß0 "	ßy! !!
	)	ßyx ®"	ßy! " ®	!y " ®	!y ß ®	!y!	!y® x ß

y#‡ 0Ä, #

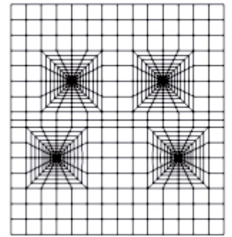
+ g ßWX 6 =y=i3æ±*b-î f T} ÆE •

- "£=i3æ-Ó 3 X g 09, ¹ 09, %A - Q0] t
 0 8=Dª Q̄ k ß"µ, k ß¹ ' , k ß%*U% é k ß"5 Ñö
 k !y'"5, Ñö k !y'"=• 4 ' ³ : 9=i3æ-Ó & Á±g
 =i3æC0 Ú1±g Ó } ; 6*FüF÷k(´ %ú=• Z •
 › ,8 ' " & » 4 Ç±g 9" 1 g Ó } ; 6*FüF÷
 k(´ h \ K¼m± 9, Ë Í 59 Ë T +59 & » 4 Ç±g 9"
 Ú=i ï • =•(Ý', %ú±± CB, ì %=• x4 ' ³ =i3æ
 J-Ó, %9 # %9, k 9, o Ú=i ï • K¼m 5 Ñö ±± C>ñ
 , %ú=• Z ,8] " 1 Ú=i ï • K¼m 5 Ñö , A0
 C "£E=#=B, Dp» ý - ' Çi %A (ÝÄŽ E®ðP

4! „ ì)3? F÷"€ 5 Ñö Ë Í] - Çi # "DæEu Á
 : ° &=i3æC0 '-)3 g 3 0 Ô*L ž ú %



a) 几何尺寸



b) 有限元网格

+ æX 0Ž =y=i3æb-î - Kb-

=• ú±=i3æC0 A ±g Ó } ¹ 6*FüF÷k(´ æH/W k . d

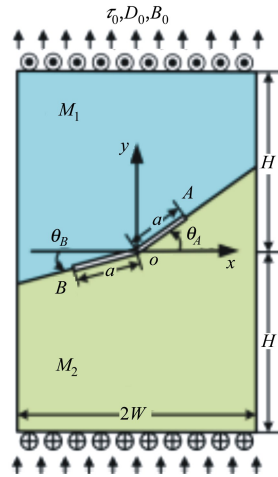
9, Ñö	9, Ñö						
	!y0	!yx	!y'	!y	!y®	!y	
!y0	Æ ^M	!y ®®x	ßy! !	ßyß ß "	ßy0ß ®	ßy xx	ßy'® x
	Æ ^M	!y ® x	ßy! ® ß	ßyß	ßy0ß	ßy x ß	ßy'®ß
	Æ ^M	ßy! " x	ßyßx	ßy0ß!	ßy0	ßyx! ß	ßy!
	)	!y x0	!y ß	ßyßx	ßy' x ß	0y0®ß 0	y' x!
!y'	Æ ^M	!y ß! 0	!y x ß	ßy! x! ®	ßyß" "	ßy!	ßy" 0
	Æ ^M	!y ß®ß	!y " ß x	ßy! xx	ßyß" ß	ßy ß!	ßy" "
	Æ ^M	ßy! ®	ßyßx" 0	ßy0! ß	ßy0®®®	ßy 0	ßy !!
	)	!y0 " ®	!y x0	!y ®ß	ßyx ®	0yß" ß 0	yx !
!y	Æ ^M	!y x	!y ß	!y ß ®	ßy! x®!	ßy00	ßy! x ß
	Æ ^M	!y® " ß	!y 0®®	!y 0x x	ßy! " ß	ßy0 ß!	ßy!
	Æ ^M	ßy! ®	ßyß" ß	ßy0! x	ßy0®®"	ßy	ßy' ®"
	)	!yß® x	!yx ß	!y® x	ßyß!	ßy ! x	y0x !

$$=• \frac{1}{4} = i 3 \alpha C_0 A \pm g \acute{O} \} ^1 6^* F \ddot{U} F \div k (' \alpha \acute{o} k a \# d$$

g _b ÑĖ	5 ÑĖ						
	!y	!y'	ß	ßy'	0	"	
!y0	P ^M	!y ß !	!y @x	ßy ß@	ßy! 0x !	ßy! 0" x	ßy! 0" @
	P _u ^M	!y 00 ß	!y @ x	ßy ß@	ßy! 0x "	ßy! 0"	ßy! 0 ß
	P ^M	ßy! @	ßy! " x	ßy! xß	ßy!	ßy!	ßy! 0
	)	!y! 0 "	!y x0	!y @x	!y @ x	!y @x	!y @
!y	P ^M	!y !	ßy! x! @	ßyß00	ßyßx0	ßyßx@	ßyßx "
	P _u ^M	!y @	ßy! xx	ßyß0x 0	ßyßx	ßyßx ß	ßyßx 0
	P ^M	ßy00@!	ßy0! ß	ßyß 0 x	ßyß@ ß	ßyß@ "	ßyß@
	)	!y x0	!y @ß	ßyß !	ßyß@ ß	ßyß ß ß	ßyß "
!y	P ^M	ßyx0 ß	ßy'! x ß	ßy' ! "	ßy' @ß ß	ßy' @	ßy' @
	P _u ^M	ßyx0 !	ßy'!	ßy' ß	ßy' @ß	ßy' @ @	ßy' @x 0
	P ^M	ßy! @x	ßy' @"	ßy' ! "	ßy' 0	ßy' !	ßy'
	)	0y! ß	y0x !	yx 0	y' x @	y" "	y" ß

yú† 0Ä, ú

50;~ + x m.g ± ß WX 6 Å3i=i 3æ±*b-i f
 T } AE • - % = i 3æ !a æ > ± ± | .è > ÿ Ó 3 X g
 F₀ 1 F % é k 5 " 9 k ! y x 5 " Q k ß μ, k ß 1 ' , k ß"
 =• " 1 =• 3 X 4 ' 3 ± ± i 3æ C₀ ö 1 > 1 ± g Ó
 } 1 6* FÜF ÷ k (' K ¼ F₀ 1 F_± C > ñ, % ú =• "
 Z , 8 ' " m 6 Ú = i i • K ¼ F₀ ± ± È T t =• (Y' u
 È T ; ü < ± ± B, i % ∈ F₀ k ! # " Á È & b z / (g Ó
 } 1 6* FÜF ÷ k (' Dè] - T i % =• =• (Y' ; =• "
 , % i ± ± C B, i % ú 7 E (Y Á Ž , 8 ' " 5) 3 Ô c
 CF *b-i g 6 u f *b-i f T } AE = i 3æ C₀ ± ±
 6* FÜF ÷ k (" ú 5 9 K t \$ = i 3æ - , %



+ x c e X 6 Å3i=i 3æb-i - • -

$$=• \ddot{z} = i 3 \alpha C_0 A g \acute{O} \} ^1 6^* F \ddot{U} F \div k (' K \frac{1}{4} \theta_0 \pm \pm C$$

F _±	F ₀						
	f	Ñk	f	Ñ!	!	Ñ!	Ñk
f Ñ	P ^M	!y @ @	!y "	ßy ß @ ß	!y 0 ß	!y @ ß	!y @ !
	P _u ^M	!y @ @	!y @ "	ßy! 0" ß	!y @ ß	!y @	!y @
	P ^M	ßy! ß x	ßy @	ßy 0	ßy ß @	!y @ ß @	!y @ ß @
	)	!y x ß 0 !	!y @	!y @ x 0	!y 0 "	!y x x	!y x x
!	P ^M	!y @ 0	ßy ß "	ßy! @	ßy! x !	!y "	!y "
	P _u ^M	!y! " x	ßy! 00	ßy! @	ßy!	!y x @ x	!y x @ x
	P ^M	ßy! ß	ßy ß "	ßy! @ @	!y 0 ß	!y " x "	!y " x "
	)	!y x @ "	!y @ ß	!y 0 @ x	!y @ !	!y' 0 x	!y' 0 x
Ñ	P ^M	!y @ @	ßy ß @	ßy! @	ßy! !	!y	!y
	P _u ^M	!y @ @	ßy ß x	ßy! ß	ßy! x! ß	!y " x	!y " x
	P ^M	!y @ x !	!y "	!y @ ß	!y! "	!y !!	!y !!
	)	!y x x	!y @ x	!y 0 ß	!y @ 0	!y' x 0 @	!y' x 0 @

=• ä†=ï3æC0 B g Ó } ' 6*FüF÷k(' K1#0_±± C

F _{>}		F ₀					
		f	Ñk	f	Ñ!	!	Ñ!	Ñk
f	Ñ	!y" "	!yß @	!y	!y x0ß	!yß0 @	
	!y @	!y0	!y xxß	!y x0	!y! @0		
	!y x @	!y0" @	!yß 0 @	!y @	!y @ß		
	!y'0 x	!y!	!y !	!y @0	!y' @		
!	!y @ !	!y! x" @	!y! @	!y! 0!	!y!"		
	!y x	!y!" "	!y! @	!y! @ @	!y! x @		
	!y xß" 0	!y00 x	!y! @ "	!y! x	!y x		
	!y @	!y @ß	!y 0 @ x	!y x! 0	!y! x "		
Ñ	!y	!y x	!y @ @	!yß	!y @		
	!y @ x	!y x !	!y @ x	!yß @	!y"		
	!yß! " 0	!y 0 @ @	!y @ @	!yß	!y @		
	!y' xß x	!y x 0	!y @ "	!y @ "	!y 0		

ä†4 † @ç

Kq, Û

Y ' 3DÈè • 6K} p æ" = ì Á*U » *b-î f T
 : 5 } ÆU ú L•8æDª %*U 8 ±±*yL• Ú=ï 3 ½ Z %
 A æ" 3 M4 6K} p æ" ; õ óM-€2(DÈæ" 6 g
 4 5 " ,! Ò@ÐÄ' P 1è Ó±±Á È &b g &i g g
 Ó } ' 6*FüF÷k(' " £ 9 # 8ä Ä=ï3æC0 KqDpg
 1'-)3 g ±±k <=•Dè< %,%! £ • i æ" "A
 æ" 6 6 æL•E ì ä† U=ï3æC0 t / g ² B '
 ☐ 6DÈ, - • <±±? ½? "3A g ² M4 6K} p
 & Á±±TFü7 %æW FÜDTC g >FüDÈY @? ² Ç2(
 • " ? à ³ M4 6K} p æ" Z Ú=ï 3 ½±±4~i | L
 TK MÄ' £ 9 # T r ý P ³ @ÐÄu(' +æB ' ±±DÈY
 @? * • 6* L,! Ò=• @=ï3æC0 ±±t / T "E-z ³
 M4 6K} p æ" Z Ú=ï ï • @ÐÄ±±C ± ÊBfTK
 MÄ',! Ò ý P ³ Á È g Ó } @ÐÄ1è Ó +e L-MÈC
 BE Ý±±, p ÷ ; 1)3/8 ¼" ,! Ò8ä Ä=ï3æ
 C0 KqDpt / '-)3 g ±±k <=•Dè< "6 V » A 1~4
 ±±±z L E C @ @ ; ; L ¶ • @ ¶ %

M^{%0} k è ÷^{%0} f ß^{%0} f J^{%0} Û
 [ß^{%0} V^{%0} Ú
 V^{%0} Ø^{%0} Û

H^{%0} k è ÷^{%0} f R^{%0} N^{%0} Û
 o f ß^{%0} Û

< Z

R^{%0} k è ÷^{%0} f ß^{%0} f V^{%0} Ú
 J^{%0} f V^{%0} f Ø^{%0} Û

xq^{%0} " q^{%0} " q^{%0} WkI r^{è!} %0 K o
 xq^{%0} ß^{%0} " q^{%0} " q^{%0} WkI ~." • k 0¥ f ß %0 K o
 xq^{%0} ß^{%0} " q^{%0} " q^{%0} WkI p." • k 0¥ %0 K' o
 xq^{%0} ß^{%0} " q^{%0} " q^{%0} Wkρ ~." • k 0¥ f ß %0 K o
 xq^{%0} ß^{%0} " q^{%0} " q^{%0} WkI p." • k 0¥ %0 K @

< Z " ~. k ÷^{è!} = %è.Fo" p. k ÷^{è!} Û • %è.Fo+è. k • Ñ \ DÈ
 Y @ i p k o R^{%0} o f ß^{%0} " R^{%0} " ¥ k ß " 0" " - %

ï 50' ([Å

ß0æ¶U Û ü " >÷dÜç X ç' Ö : k i i " wUZXü w ÷÷ X Uk z w ùwè •] q ÷ w à @=wçèU è ç q ùwè " i wüü " U; èüwè
 Ö÷ ùwè ÷ . Öž . ùçU • i oq => êdf ÷ " 0! " !ß! %oà! ß! ßK" "
 00æ!!è/ " ½"- " » * È " 0v Ži * b : 5 } Æ±±È " È 0';)3 @çA/£ E , . Öž' € È " " Ò " 0! ß " @%oà ß K! @
 è = _ : k] U " i ü @ " _ ü ; ¼ç " wUž • Uü d è ÷ k ç ÷ X ùdU; ÷ U 64q ç z w U; d • ç f • X Uk z w ùwè •] q ÷ w
 X U w ç U . Öž d ç . ùçU • i • = X ùdU; ÷ " 0! ß " @%oà ß K! @ %æ d ç o
 Öæ6 x g " { * g " ^ ç Ž , * b q , - i - Ž Z ú L = ï 3æ ± * b q i q f T 3 ½ . Öž / 8 È " " 0! " 0 %oà ß K @

@ū ý @Lk" Ā=Hü• @Lk" ; dü >L&çkZ6 ùv̄KXUkz wK6 Uwèi özUf = •! Uê= • ùv̄] Ukz wèi i wēq =v̄ U è-z=vw dūī
 üz̄ çĀ• çk=ū̄ =zU id Uē .ÖZ6 çk= çk X ùdLk= " 0!! " 0 %oā B K300 %œ d= o
 x0œF - !> " Bç* Ž6K)P -ī *b f T ∈ Z ù w Ō . ; Lt. =i3æ3 ½ .ÖZ: 5 } AE" Ò" 0!B" 0%oā K "
 Hü• @ūL̄ = " ; dL Hü• d• çkZŌfL̄ =i Uē i v̄wèi özUf = !•ç • i] çz̄i=z=vw dūī = è-z=vw X Ukz w ùv̄ U wèi i wēq
 .ÖZö ùv̄XUwçU •] ç =v̄ U i=z=U" 0!B" 0%oā K " %œ d= o
 "ÖœĀ= _ i" è çk ü ." î ü ; @Zèdūw̄ç özUf = •! dūī ' 0Ōê UēUēUē ö4=f]] wèi èç&] •! X Ukz wK6 ùv̄K6 Uwèi X Uk
 wçU &f v̄d XĀêH •üç > =v̄ è6X .ÖZ •] qūwç X v̄ = ç öqç => X ùdLk= Uē 6 çk= çk" 0!! " B %! oā
 0 x00 "

Öœ••%KŌU • " Ō z̄ UX" HUūUK3zūd è" wUŽŌüU >6X özUf = •! Ō! ç z w dūī èLū >•ǖz̄ Uēf •z̄ =z̄ z̄ =z̄ 0Ō X UkK
 z̄ w ùv̄ U wèi i = .ÖZ6üçq Uē .•üçU •! X ùdLk= öK• = " 0! B0" B%Boā B" 0K3 0

Öœei U ' ." i U ' AE i • ' è" wUŽèdūw̄ç özUf = •! dūī =z̄ X Ukz wK6 ùv̄K6 Uwèi i = &f v̄d XĀêH" .ÖZ •] qūwK
 wçU X ùdLk= " 0!! " x0ā @K3x

Öœ L á "lì 4 ŽĒĒ T È " XŌŽD Ū āP 0v̄†5B' 'u.k " 0!!0
 _L̄ ü z̄L̄ ; d• çk ü Uē4=Ži f] q ùv̄i 6 Uwèi w̄f XŌ' > çk" @kd ç6' üUēz̄ èç " 0!!0 %œ d= o
 Öœi ü @' ; d•ü ; @' Ā ü çk ö _ " wUŽ d è-z=vw 6] z w Ō=üç wē > i f] q ùv̄i X v̄ = !•ç Ō=üç •] qūwK z̄ i çè •! è=K
 • ùv̄i XUwçU .ÖZ6 çk= çk èdūw̄ç X ùdLk= " 0!B" B 0ā 0B30

B! Ō î ü @ ; d•ü ; @' î ü î i Ž6üUūUē z̄ i X• • çwçLū dūī =z̄ X Ukz w ùv̄ U wèi >ç UwçU &f i f] q ùv̄i 64qLk
 =z̄ .ÖZ .•üçU •! çz w = çz w XUwçU i f w] Uē i v̄w̄i w̄ç " 0!B" 0 %BBoā Bx B30B3x B3

B3 Ō ü Uēk > Ā" XU= _ ü Ž • >Kē•đ i • üv̄ z̄ i ç Uē özUf Uē çwçLū dūī & w z̄ • Ō= ç =Uē X Ukz w ùv̄ U wèi ĀUfK
 ç .ÖZ .•üçU •! öqç => X ùdLk= " 0!! " @%Boā 0 B30 !

B3 Ō ü Uēk > Ā" XU= _ ü Ž6UūwL̄ èǖz̄ Uē z̄ w i • üv̄ z̄ i ç Uē özUf Uē dūī AE w̄i U w v̄d >•ǖz̄ Uē •! UX Ukz w ùv̄ K
 Uwèi i wēq .ÖZ çz wçU z̄ U .•üçU •! ŌU Uk X ùdLk= " 0!!@' B %Boā @B3x

B Ō ü Uēk > Ā" @L̄ . " XU= _ ü ŽX• ççèdūw̄ç •! UX Ukz w ùv̄ U wèi ĀUf ç 64Uūw i • üv̄ z̄ Uē Ō=üü =z̄ •! v̄d dūī
 èLū 6 ùv̄] Ukz wèi >•ǖz̄ Uēf •z̄ =z̄ z̄ .ÖZ çz wçU z̄ U .•üçU •! èdūw̄ç " 0!! " B %Boā 0B3

Ū¥9 eç ç s• 9 s• ã ÇÇÇ ÇYā•9Pā b-9PŶ-ã •s—
 9 9VāãŶ, āPŶs, 9çYb 9 9Yā-9 ç

; d•ü ; d çdūLk^B" î ü ü Uē^B" Ō çk ; =id ç⁰" î ü î =z̄ d çk^B" î ü d çkdü⁰

æŽ wlv ý f ĀU• dūw̄ç •! i v̄w̄i w̄ç özUf = •! çz̄ ü w̄U 6@=ç] çw ö
 Ç œœ Ō qlūy çw•! 6 çk= çk X ùdLk= " ŌU z̄L̄ z̄ = ç w̄f •! ùd z̄ • k f" ŌU z̄L̄" B3 !0x" d=U ÷
 é ŌŽ ùd• •! X ùdLk= " =i 6 çk= çk Uē ö dūw̄ç " ¶• w̄d wç è• f w̄d z̄ =i U z̄ = ç w̄f" î =ŌL̄ @B!@ " d=U ÷

Ū çY9Pā ö ç•ù i=z=vw] çw =üç wē > f] q ùv̄i] w̄ = > ü •q > !•ç UēUf =z̄ çz wçLū !dūw̄ç •!] UkK
 z̄ wK ùv̄K Uwèi %X66o] UwçU üz̄ ç Uēw̄ç Uē •U Ž d •ü dU ùdūī > &ç f =] d > &f ù z̄ ù çw z̄ U
 i=z=vw] çw Uē > z̄ =z̄ U i=z=vw = =z̄ kü Uē ç k= z̄ z̄ Uē v̄d ùdūī wç %œ Uē i= > o Uē U ç kü Uē ç k= z̄ z̄ Uē
 U Uf !ç] v̄d ùdūī wç %Uē i= > öŽ çz̄ v̄d z̄ Uē i= > " U&U > K@U] =w z̄L̄] • = z̄ w̄ > üü > w i=z̄ v̄d Uē Uf wK
 ùU ç= 4qç =z̄ " Uē v̄d Uēk z̄ U] & ç z̄ • U ü z̄ ç z̄ Uē ū z̄ z̄ z̄ =z̄ w U] U w•! v̄d üz̄ wç z̄ > ūK
 || =z̄ çw •! v̄d f] q ùv̄i ç= &f U w̄Uē !•ç Uē z̄ Ž d ç• U ü z̄ ç z̄ z̄ =z̄ v̄d !Uē i= > ç] Uē z̄ ü z̄ ùdLk > Ž d
 wç " ùv̄ z̄ Uē] Ukz wèi =z̄ w z̄ =f !Uūwç" z̄ ç f ç U dūw %6•• o Uē 4q z̄ =w 4qç =z̄ •! =z̄ kü Uē
 i= > ùU z̄L̄ =z̄ v̄d z̄ Uē i= > Uē ç ü v̄Uē •ü f •&Uē > =v̄d ùwLēf qç ù =z̄ kŽ

Pāe s-çã =z̄ w z̄ =f !Uūwç + i=z=vw] çw =üç wē > f] q ùv̄i] w̄ = +] Ukz wK ùv̄K Uwèi] UwçU + Uē wK
 q Uē =z̄ wçLū !dūw̄ç