

SID



سرویس های ویژه



سرویس ترجمه تخصصی



کارگاه های آموزشی



بلاگ مرکز اطلاعات علمی



سامانه ویراستاری STES



فیلم های آموزشی

کارگاه های آموزشی مرکز اطلاعات علمی



مقاله نویسی علوم انسانی
تربیه آموزشی

مقاله نویسی علوم انسانی



اصول تنظیم قراردادها
تربیه آموزشی

اصول تنظیم قراردادها



آموزش مهارت های کاربردی در تدوین و چاپ مقاله
تربیه آموزشی

آموزش مهارت های کاربردی در تدوین و چاپ مقاله

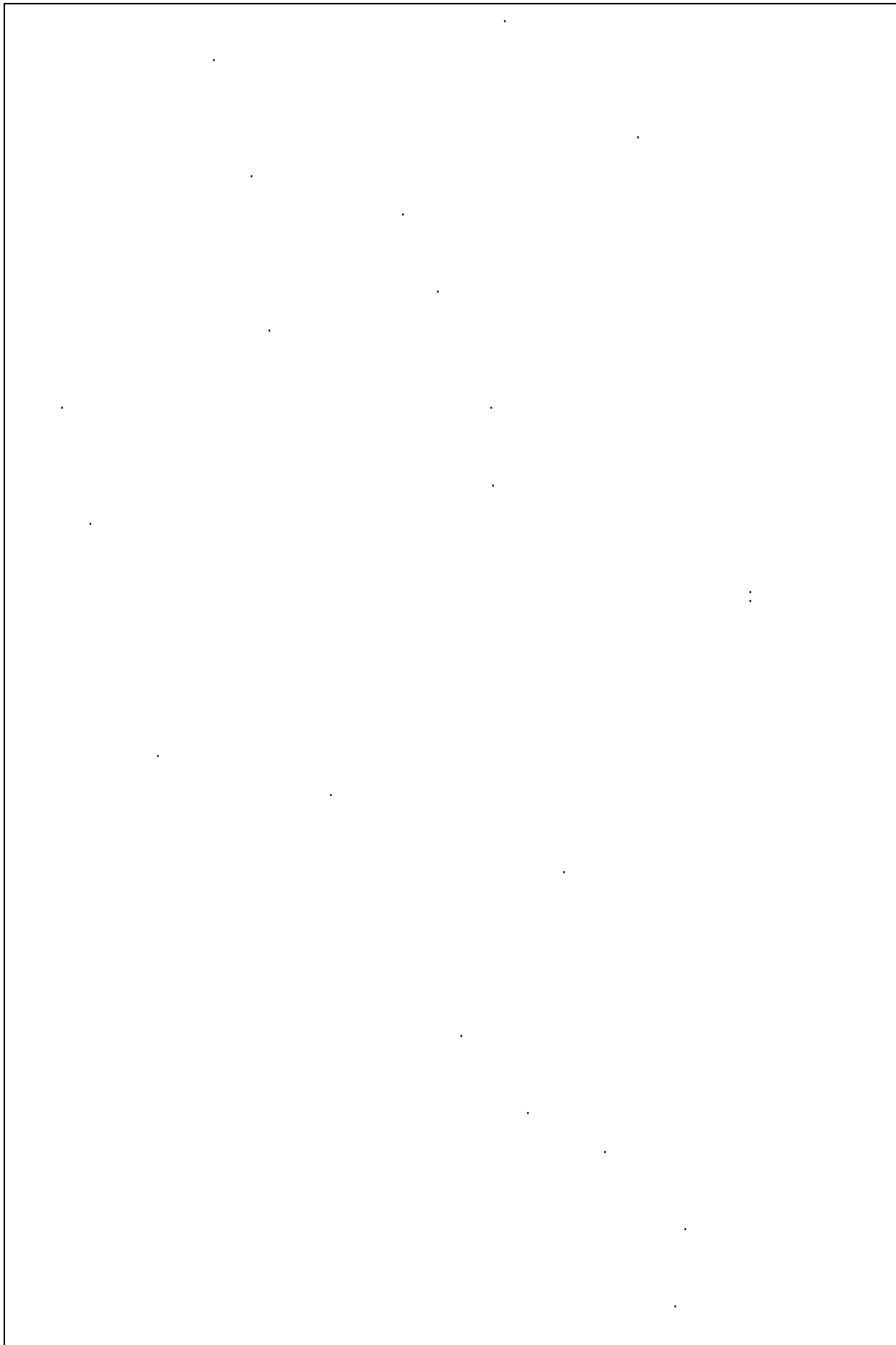
Well-Posedness

Stratified

-
- 1- Stratified
 - 2- Wavy

()

1- Ill Posedness
2-Well-Posed



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$$(V_g - V_L)^2 = \frac{\rho_L}{\rho_g K} [\coth(kh_g) - 0.9 + 0.45 \coth^2(kh_g) - 0.9]^{-1} \quad ()$$

[]

$$V_g - V_L \geq K_1 \sqrt{(\rho_L - \rho_g) g h_g / \rho_g}$$

$$K_1 = \sqrt{\frac{2}{h_g / h_c (1 + h_g / h_c)}} \quad ()$$

[]

$$h_c \quad (\rho_g / \rho_L \leq 1)$$

$$V_g - V_L = 0.487 \sqrt{(\rho_L - \rho_g) g h_g / \rho_g} \quad ()$$

-
- 1- Lift
 - 2- Kordiban
 - 3- Ranof
 - 4- Taitel
 - 5- Dukler
 - 6- Ishii

[]

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D

$$Df = \frac{\partial f}{\partial t} + \frac{\partial uf}{\partial x} + \frac{\partial Vf}{\partial y} \quad (1)$$

$(u, V), (x, y), t$ (x, y, t) f

:

$$Df + \frac{\partial F}{\partial x} + \frac{\partial G}{\partial y} = S$$

$$f = (\rho, \rho U, \rho V, \rho E) \quad (2)$$

$$F = (0, p, 0, up)$$

$$G = (0, 0, p, Vp)$$

$$S = (S^\rho, S^{\rho U}, S^{\rho V}, S^{\rho E})$$

S

P E V U ρ

-
- 1- Long
 - 2- Ram show
 - 3- Trapp
 - 4- Bedford
 - 5- Damhalo
 - 6- Ramson
 - 7 -Scofied

$0 \leq y \leq Y$ $n = 1$ $Y \leq y \leq H$ $n = 2$
 Void Fraction α_n

$$\alpha_1 + \alpha_2 = 1 \quad (1)$$

$$Y = \alpha_1 \cdot H$$

$$\hat{f}_n \quad f_H, f_0 \quad y = H \quad y = 0 \quad f$$

$$\hat{f}_1(x, t) = f_1(x, Y_-, t) \quad (2)$$

$$\hat{f}_2(x, t) = f_1(x, Y_+, t)$$

$$f.n(x, y, t) = f(x, y, t) \quad n \quad (x, y, t) \quad (3)$$

$$f.n(x, y, t) = 0 \quad n \quad (x, y, t)$$

$$f_n(x, t) = \int_0^H f.n(x, y, t) \frac{dy}{\alpha n \cdot H} \quad (4)$$

$$\frac{\partial \alpha_1 \rho_1}{\partial t} + \frac{\partial \alpha_1 u_1 \rho_1}{\partial x} = S_1^\rho \quad \frac{\partial \alpha_2 \rho_2}{\partial t} + \frac{\partial \alpha_2 u_2 \rho_2}{\partial x} = S_2^\rho$$

$$\frac{\partial \alpha_2 \rho_2 u_2}{\partial t} + \frac{\partial \alpha_2 \rho_2 u_2^2}{\partial x} + \alpha_2 \frac{\partial p_2}{\partial x} + (p_2 - \hat{p}) \frac{\partial \alpha_2}{\partial x} = S_2^{\rho u} \quad \frac{\partial \alpha_1 \rho_1 u_1}{\partial t} + \frac{\partial \alpha_1 \rho_1 u_1^2}{\partial x} + \alpha_1 \frac{\partial p_1}{\partial x} + (p_1 - \hat{p}) \frac{\partial \alpha_1}{\partial x} = S_1^{\rho u}$$

$$\frac{v}{H} = \frac{\partial \alpha_1}{\partial t} + \hat{u} \frac{\partial \alpha_1}{\partial x} \quad \frac{\partial \alpha_1 \rho_1 s_1}{\partial t} + \frac{\partial \alpha_1 \rho_1 u_1 s_1}{\partial x} = S_1^{\rho s} \quad (5)$$

$$\frac{\partial \alpha_2 \rho_2 s_2}{\partial t} + \frac{\partial \alpha_2 \rho_2 u_2 s_2}{\partial x} = S_2^{\rho s} \quad \frac{\partial \rho_m^v}{\partial t} + \frac{\partial \rho_m^u v}{\partial x} + \frac{(p_2 - p_1)}{H} = S^{\rho v}$$

$$\hat{U}, \hat{P}, p, H, u_m, \rho_m, V, s, \mathcal{S}, u, \rho$$

()

0.0000001

Void fraction

Donor- Cell

$$\langle SU \rangle_{J+1/2} = \left(\frac{1}{2} \right) \{ S_{J+1} (U_{J+1/2} - |U_{J+1/2}|) + S_J (U_{J+1/2} + |U_{J+1/2}|) \} \quad ()$$

$$\nabla_J (SU) = \{ A_{J+1/2} \langle SU \rangle_{J+1/2} - A_{J-1/2} \langle SU \rangle_{J-1/2} \} / V_J \quad ()$$

Upwind

$$(U_{J+1/2} \nabla U_{J+1/2}) \Delta Z_{J+1/2} = \left(\frac{1}{2} \right) U_{J+1/2} \left[\begin{array}{l} \left(\frac{1}{A_{J+1}} \right) \{ A_{J+1/2} U_{J+1/2} + A_{J+3/2} U_{J+3/2} + \\ \theta (U_{J+1/2} / |U_{J+1/2}|) (A_{J+1/2} U_{J+1/2} - A_{J+3/2} U_{J+3/2}) \} \\ - \left(\frac{1}{A_J} \right) \{ A_{J-1/2} U_{J-1/2} + A_{J+1/2} U_{J+1/2} + \\ \theta (U_{J+1/2} / |U_{J+1/2}|) (A_{J-1/2} U_{J-1/2} - A_{J+1/2} U_{J+1/2}) \} \end{array} \right] \quad ()$$

$0 < \theta < 1$ Central

Upwind

$\theta = 1, 0$

θ

k

() x

$$\alpha_1 = \alpha_1^0 + 0.005 \sin(2\pi x / \lambda) \quad ()$$

$$\alpha_2 = \alpha_2^0 + 0.005 \sin(2\pi x / \lambda)$$

$$/ \quad () \quad ()$$

$$() \quad m/s$$

$$/ \quad () \quad ()$$

$$() \quad m/s$$

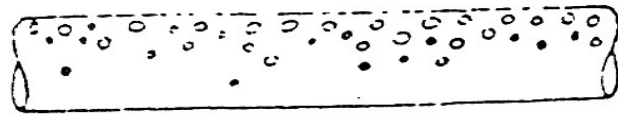
$$() \quad () \quad ()$$

$$() \quad ()$$

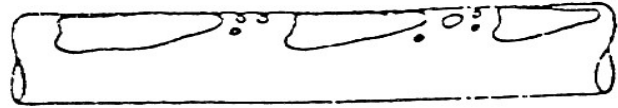
$$() \quad ()$$

$$(u_g = -40 m/s, U_1 = 1 m/s)$$

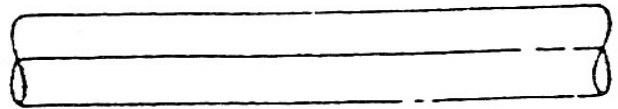
- [1] Spedding p.l. spence , d.R , flow regimes in Two –1) phase gas Liquid flow , Int. J. Multiphase flow , 19, p.245-280 (1993)
- [2] E.Kordyban and Formation in Horizontal Two-Phase flow,Int, J.Multiphase, Flow,Vol,10,NO.5,PP.278-311, 2002
- [3] Y.Taitel and A.Dukler,1987,A Model Prediction flow Regime Transition in Horizontal and Near Horizontal Gas-Liquid flow Int.j.Multiphase Flow,Vol.13,NO2,PP.145-159
- [4] M.Ishii,1985,Theoretical Prediction of onset of Horizontal Slug Flow,Departman of Reactor Safty Research,Japan Atomic Energy Research Institude.
- [5] T.N.Wong and y.k.you , flow patterns in Two-phase air-water flow = int. COMM.Heat mass Transfer , vol.24 , No ,10pp.111-118 ,1997
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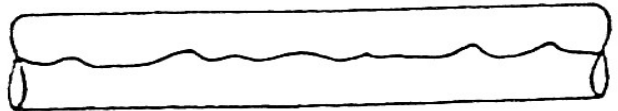
Bubble Flow



Plug Flow



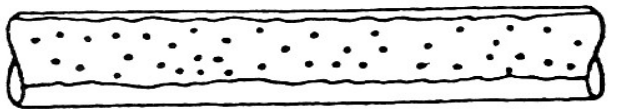
Stratified Flow



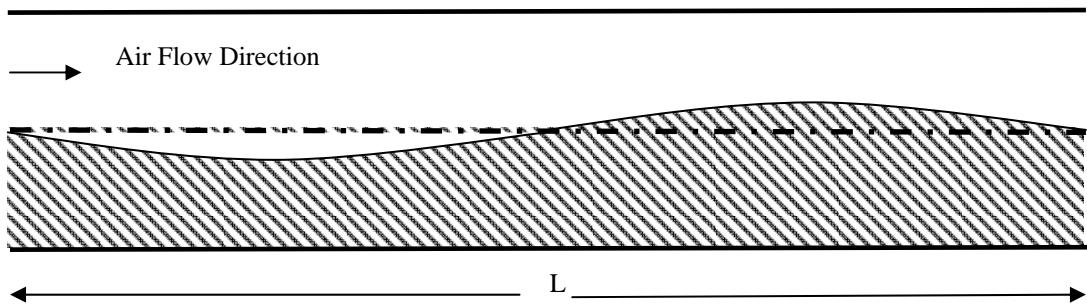
Wavy Flow

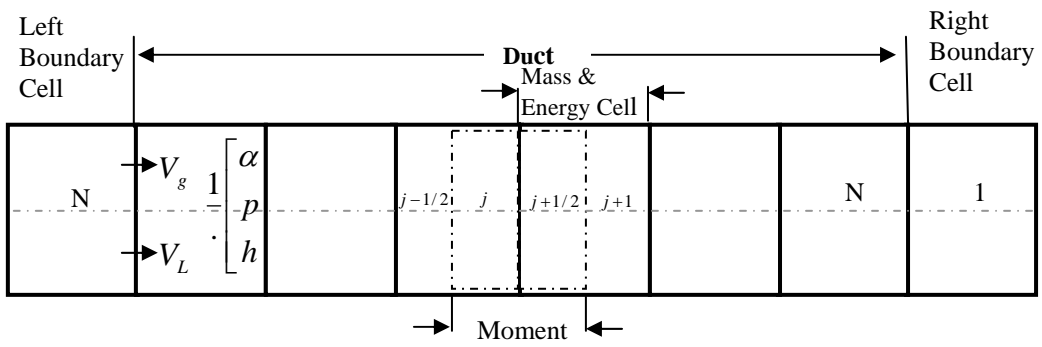
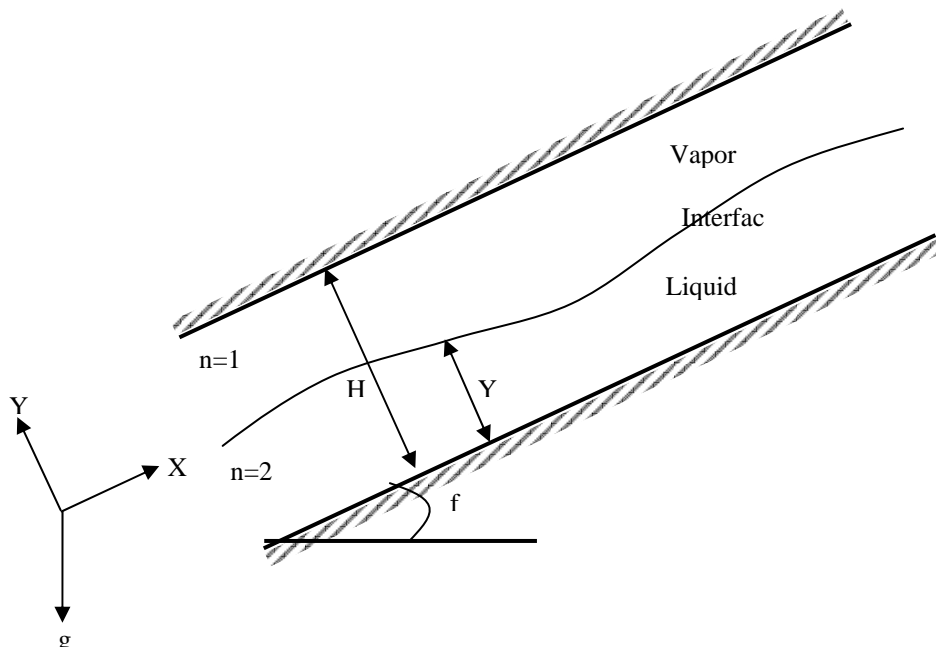


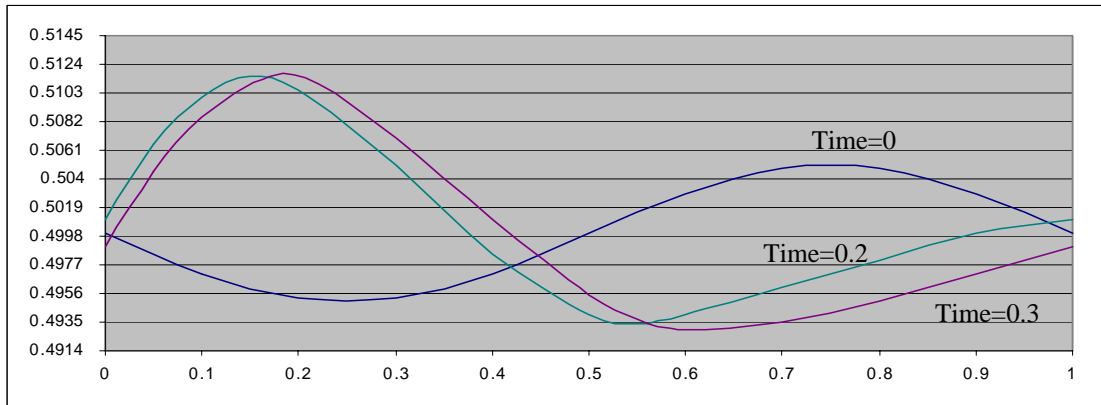
Slug Flow



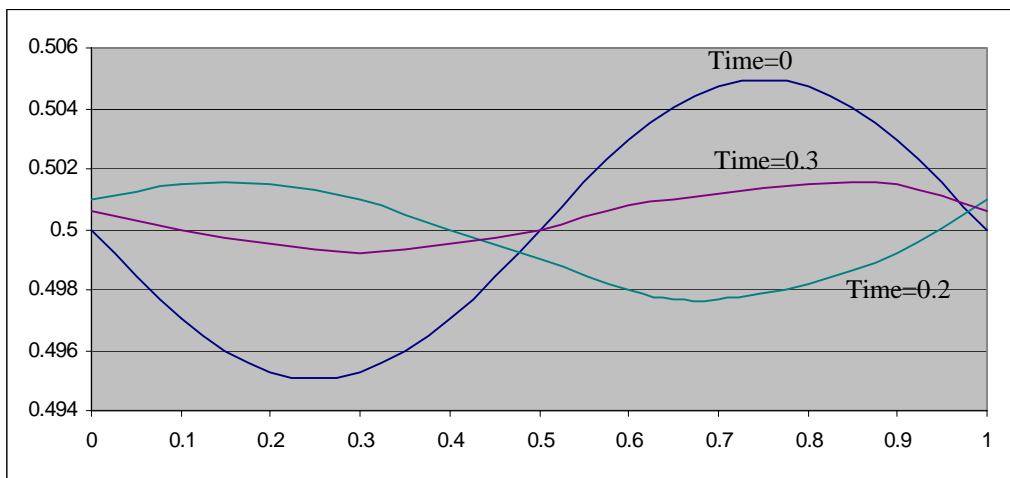
Annular Flow



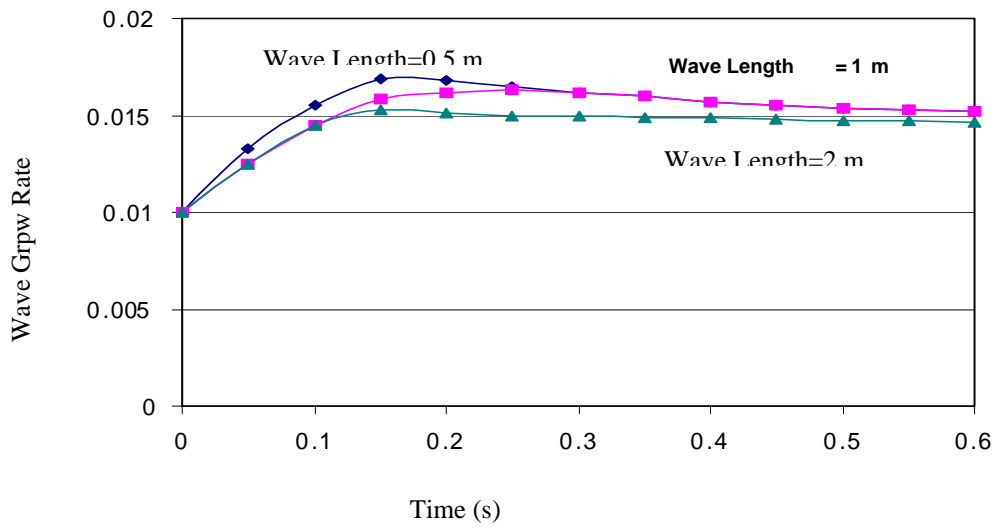




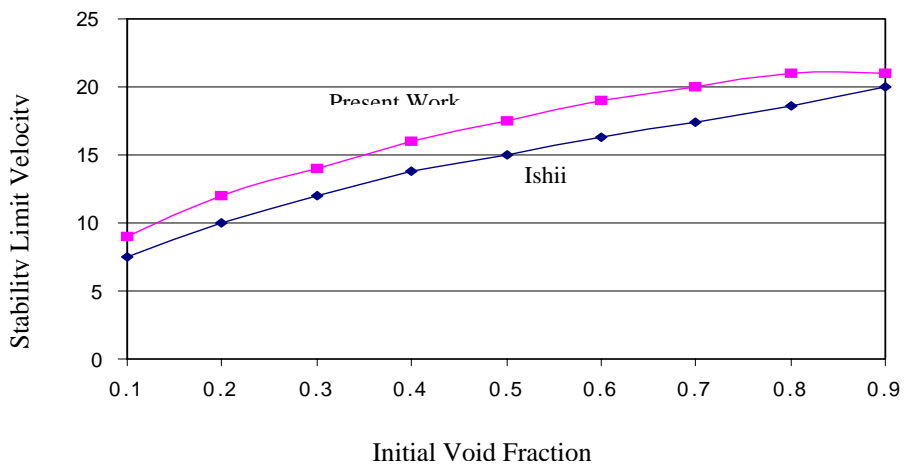
() m/s



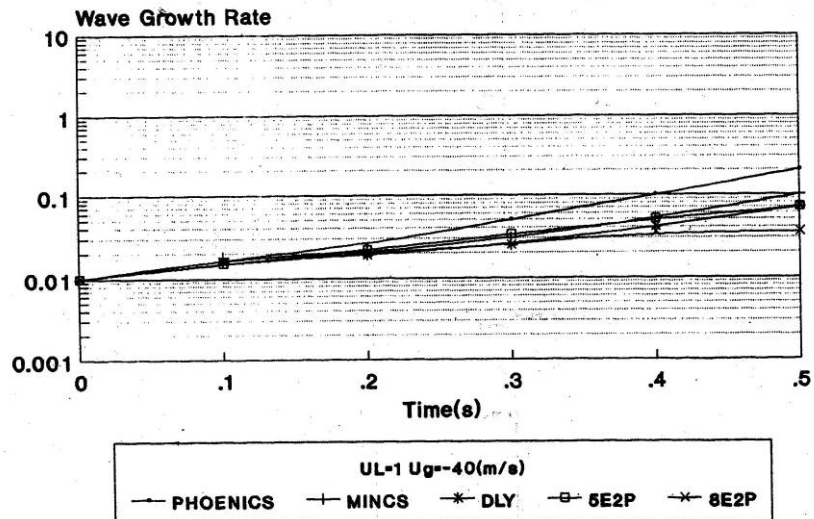
() m/s



UI=1 Ug=20 (m/s)



UI=1 (m/s)



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