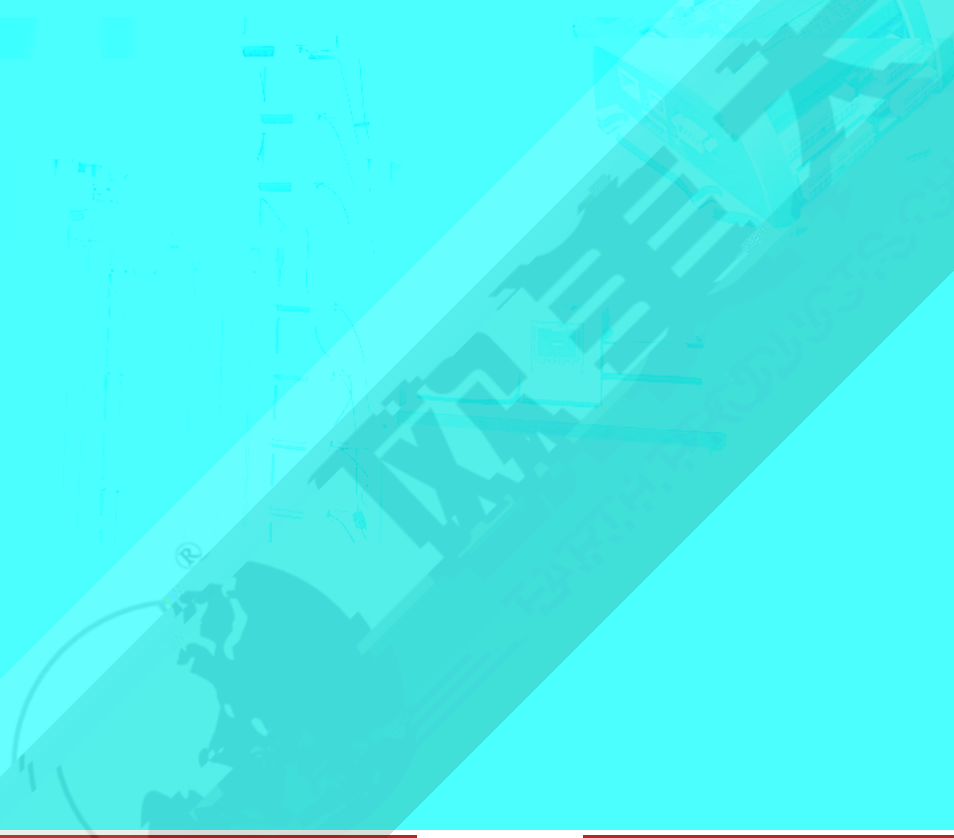


Automated environment controllable stress-controllable 7D soil column for measuring transient hydraulic properties



- ◆ /
- ◆
- ◆ SDPFs SDSWCCs
- ◆ SDPFs SDSWCCs
- ◆ , K_0 SDPF
- ◆
- ◆ SDSWCC



Geo-Experts

IPM
SDPF

h_{z_i,t_j}
and D)

$t_j (j = 1, 2)$

$z_i (i = A, B, C$

PWP

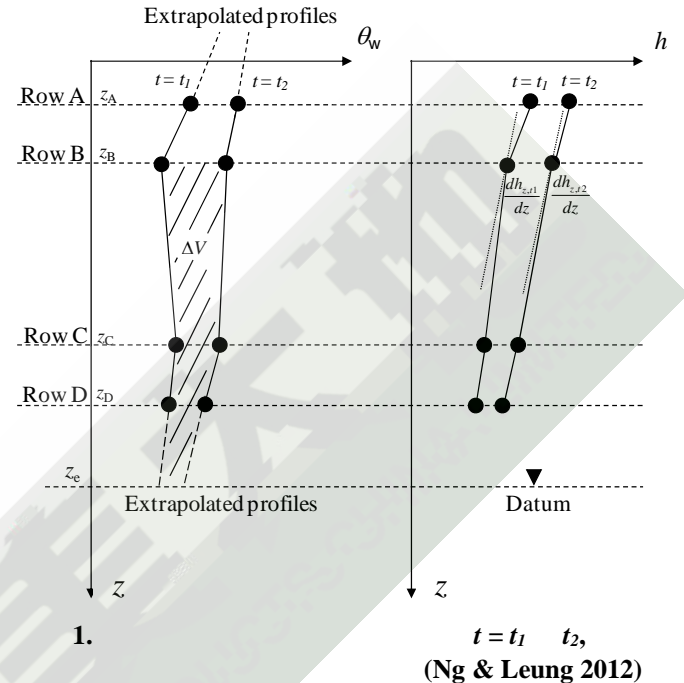
VWC

SDSWCC

PWP

LVDT

VWC



- IPM

$$k_{zB,tave} = - \frac{v_{zB,tave}}{i_{zB,tave}} \quad (3)$$

$$v_{zB,tave} = - \frac{\Delta V}{t_2 - t_1} + v_{ze,tave} \quad (1)$$

$$t_{ave} = (t_1 + t_2)/2$$

$$i_{zB,tave} = \frac{1}{4} \left[\left(\frac{h_{zA,t1} - h_{zB,t1}}{z_A - z_B} + \frac{h_{zB,t1} - h_{zC,t1}}{z_B - z_C} \right) + \left(\frac{h_{zA,t2} - h_{zB,t2}}{z_A - z_B} + \frac{h_{zB,t2} - h_{zC,t2}}{z_B - z_C} \right) \right]$$

Geo-Experts

(Mariotte's bottle.)

$v_{ze,tave}$

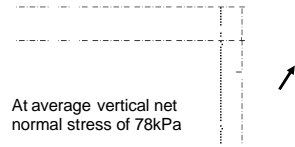
$i_{zB,tave}$

:

$$i_{zB,tave} = \frac{1}{2} \left(\frac{dh_{zB,t1}}{dz} + \frac{dh_{zB,t2}}{dz} \right) \quad (2)$$

$$= \frac{1}{4} \left[\left(\frac{h_{zA,t1} - h_{zB,t1}}{z_A - z_B} + \frac{h_{zB,t1} - h_{zC,t1}}{z_B - z_C} \right) + \left(\frac{h_{zA,t2} - h_{zB,t2}}{z_A - z_B} + \frac{h_{zB,t2} - h_{zC,t2}}{z_B - z_C} \right) \right]$$

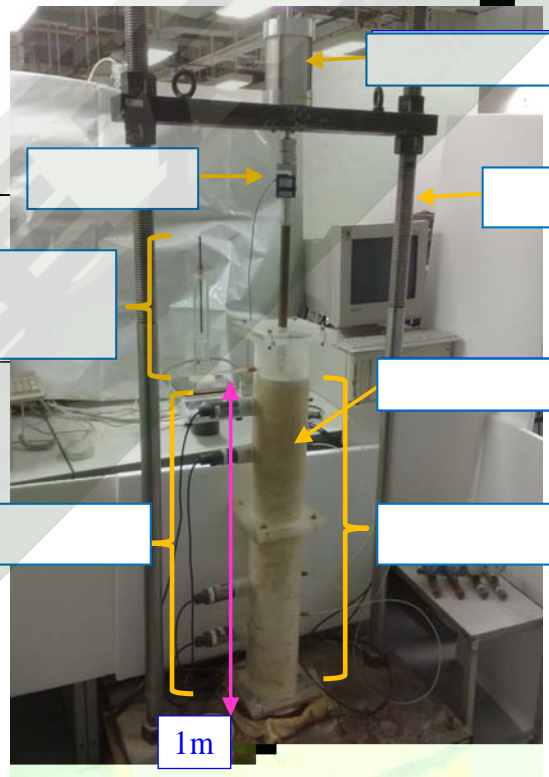
(c)



3. 80kPa

(a) 0kPa, (b) 40kPa and (c) 80kPa

Leung 2012)



中国总代理.



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沈阳电话: (024)2324 2365 传真: (024)2324 2359

成都电话: (028)8675 8783 传真: (028)8674 3787

广州电话: (020)8336 1533 传真: (020)8336 2080

武汉电话: (027)8798 4000 传真: (027)8798 3998

福州电话: (0591)8798 8118 传真: (0591)8798 8118

北京电话: (010)6798 9888 传真: (010)6798 9100

:

1	*		
		:	150 mm
		:	190 mm
		:	1000 mm
2	VWC	:	60 mm
3		:	5 mm
4	()		
i	k	:	150 mm
		:	200 mm
ii		:	5 kg
		:	0.01 g
5		:	10 kN
		:	50 mm
		:	0 – 450 kPa
		:	0 – 1000 kPa
6	()		
		:	2 MPa
		:	0.5 mV/V
		:	2 % RO
		:	1 channel, 4 dig

*) 6. (

** VWC PWC

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广州 电话: (020)8336 1533 传真: (020)8336 2080

武汉 电话: (027)8798 4999 传真: (027)8798 9999

福州 电话: (0591)8798 8118 传真: (0591)8798 8118

北京 电话: (010)6798 9999 传真: (010)6798 9100