

( )

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[ ]

[ , ]  
(Convective) -

(Impulsive) -

( )

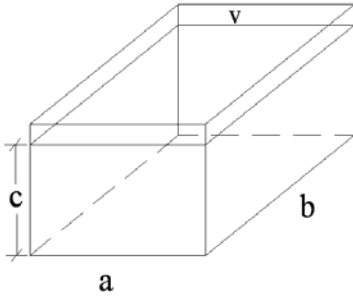
( )



[ ]

( )

[ , ]



[ ]

	Tank-1	Tank-4
a(m)		
b(m)		
c(m)		
t(cm)		

Fluid 80

Ansys

Beam

3,

Shell63

[ ]

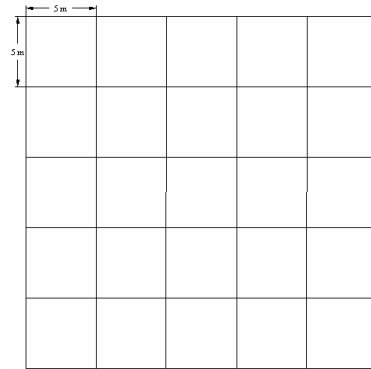
\* N/m<sup>2</sup>

/ kg/m<sup>3</sup>

\* N/m<sup>2</sup> (β)

kg/m<sup>3</sup>

( )



( )  
( )

(Tank-2 Tank-1)

)

( )

(Ansys )  
)  
c

(

) (compressive)

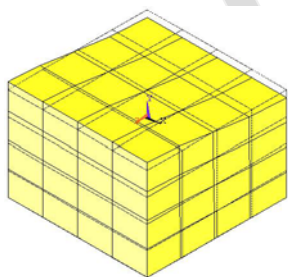
( )

( ) (sloshing)

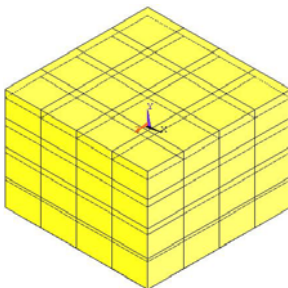
	Tank-1	Tank-2
f sloshing	/	/
f compressive	/	/
f Impulsive	/	/

(sloshing)

)



(Compressive)



(Sloshing)

( )

(c )

( $T_0 = /$ )

( $I =$ ) /

( )  
(R)

( $A = /$ ) /

(

( $R =$ )

( )

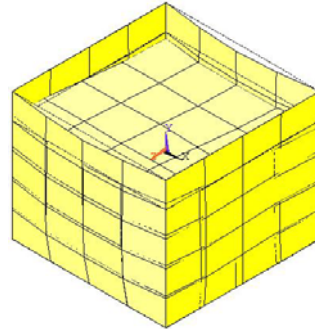
kgf/m<sup>2</sup>

( cm ) composite

( )

( )

(Impulsive)



(impulsive)

		(sec)		
)	1	0.85	0.84	0.84
	2	0.25	0.1	0.94
+ Tank1	1	1.2	0.11	0.11
	2	0.86	0.73	0.84
	3	0.26	0.11	0.95
+ Tank4	1	2.5	0.2	0.2
	2	0.92	0.68	0.88
	3	0.27	0.09	0.97

( )

W

$$V = CW$$

B

C

$$C = \frac{ABI}{R}$$

)

( )

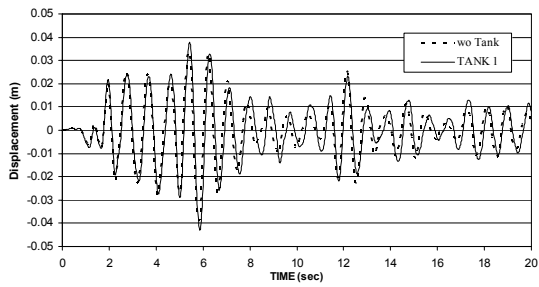
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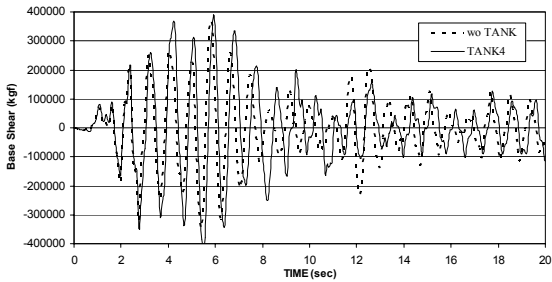
)

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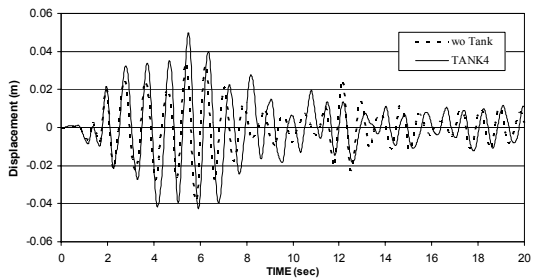
( )



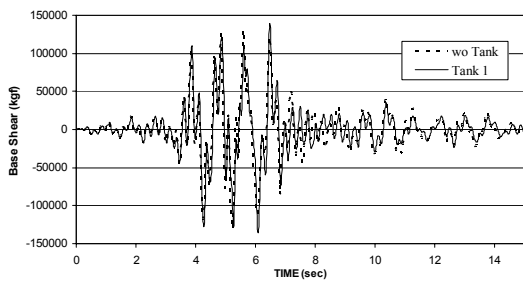
(Tank-1)



(Tank-4)



(Tank-4)



(Tank-1)

( )

)

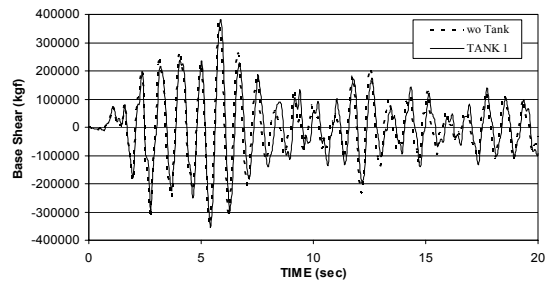
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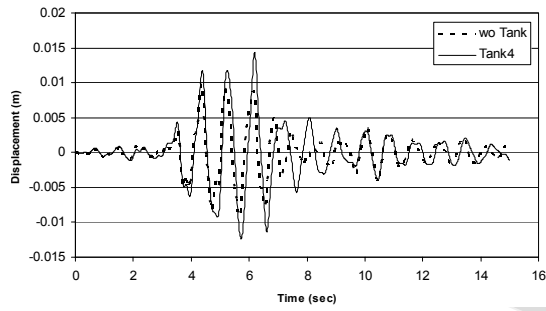
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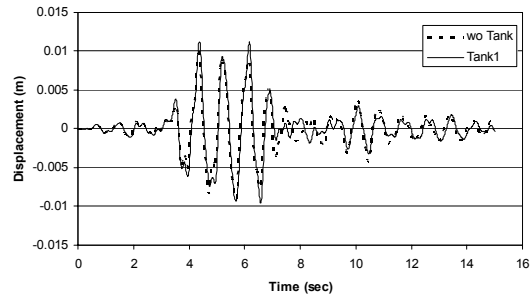
( )



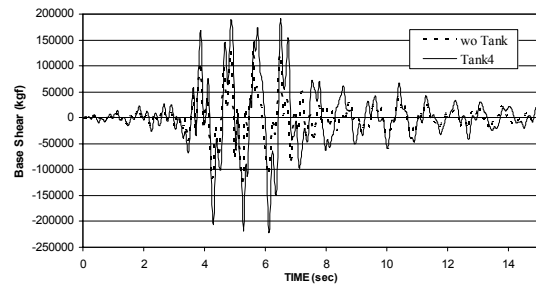
(Tank-1)



(Tank-4)



(Tank-1)



(Tank-4)

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