



$$V_b = - \int_0^b E_x(x) dx \quad (1)$$

$$E_x(x)$$

x

[ ]

$$V_b = - \int_0^b E_x(x) dx \approx - \frac{h}{3} [E(0) + 4E(h) + E(b)] \quad (2)$$

$$h = \frac{b}{2}$$

( )

$$V_b = - \int_0^b E_x(x) dx \approx - \frac{h}{6} \left[ E(0) + 4E\left(\frac{h}{2}\right) + 2E(h) + 4E\left(\frac{3h}{2}\right) + E(b) \right] \quad (3)$$

Pockels

N

$$V_b \approx \frac{-h}{3n} \left[ E(0) + E(b) + 4 \sum_{i=1}^n E\left(\frac{2i-1}{n}h\right) + 2 \sum_{i=1}^{n-1} E\left(\frac{2i}{n}h\right) \right] \quad (4)$$

$$h = \frac{b}{2} \quad n = \frac{N-1}{2}$$

( )

Archive of SID

b a  
( )

$$V_{ba} = - \int_{\Gamma_{ab}} \vec{E} \cdot d\vec{l} \quad (5)$$

b a

$\Gamma_{ab}$

x

$\Gamma_{ab}$

( )

a

kV

(c)

V

$E_x^{unp}$

$$V_b = -\int_0^b E_x(x) dx \approx -\frac{2h}{C+2} [E(0) + CE(h) + E(b)] \quad ( )$$

OVT

d

( )

( )

$$C \quad h = \frac{b}{2}$$

$E_x$

$E_x$

$$V_b \approx -\frac{2h}{n(C+2)} \left[ E(0) + E(b) + C \sum_{i=1}^n E\left(\frac{2i-1}{n}h\right) + 2 \sum_{i=1}^{n-1} E\left(\frac{2i}{n}h\right) \right] \quad ( )$$

$$E_x(x) = \rho(x) E_x^{unp}(x)$$

$E_x^{unp}$   
( )

$$n = \frac{N-1}{2} \quad h = \frac{b}{2}$$

$\rho(x)$

$\rho$

$\rho(x)$

$E_x^{unp}$   
( )

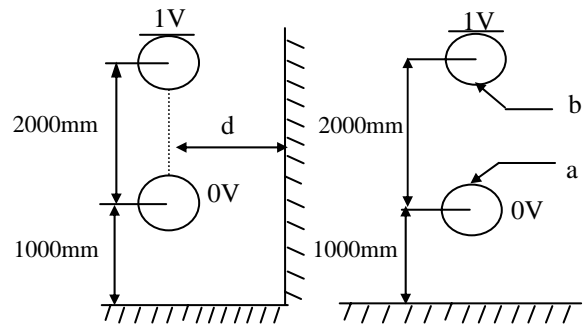
( )

d=400mm

$E_x$

( $\rho(x)$ )

d=400mm



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OVT mm

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mm

OVT mm

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mm

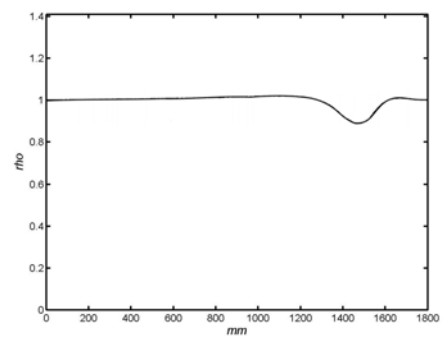
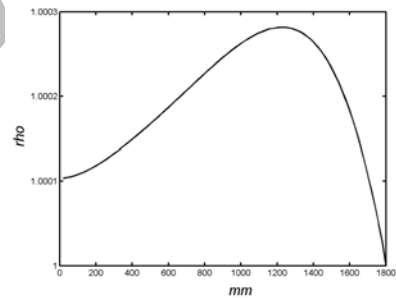
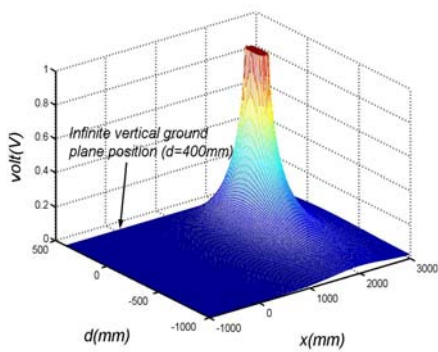
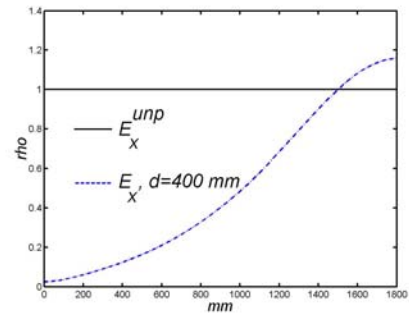
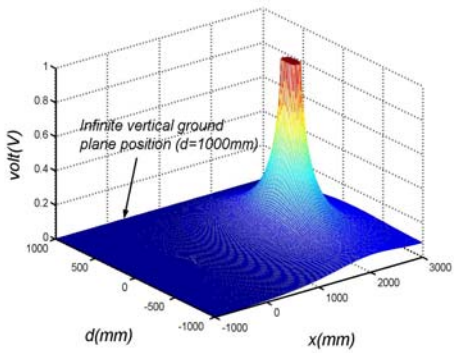
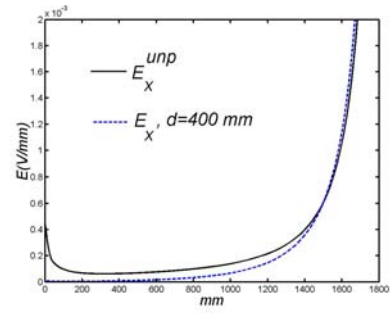
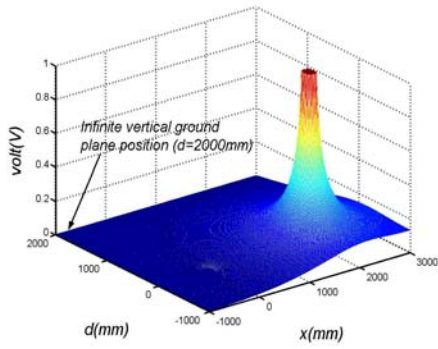
mm

mm

( ) ( ) ( )

d=2000mm

d=400mm d=1000mm



( :  
( d=400mm

d=400mm

d= mm ( d= mm ( d= mm ( X

OVT

d

OVT

(

.N=5

N=5	C=17.4161	C=17.556	C=17.6436	C=17.7019
d=400mm	0.0001%	-0.5276%	-0.8542%	-1.0700%
d=600mm	0.5032%	-0.0000%	-0.3115%	-0.5172%
d=800mm	0.6869%	0.1959%	-0.1080%	-0.3087%
d=1000mm	0.7825%	0.2992%	0.0001%	-0.1975%
d=1500mm	0.9075%	0.4352%	0.1428%	-0.0503%
d=2000mm	0.9500%	0.4815%	0.1915%	-0.0000%

d=2000mm d=400mm

(x=b x=0)

OVT

.N=41

N=41	error
d=400mm	1.4433%
d=600mm	1.3820%
d=800mm	1.3506%
d=1000mm	1.3307%
d=1500mm	1.3027%
d=2000mm	1.2930%

( ) ( ) ( )

N=5 N=3

OVT

d

OVT

.N=3

N=3	C=13.9335	C=13.9048	C=13.9697	C=14.0765
d=400mm	0.0001%	0.1654%	-0.2076%	-0.8147%
d=600mm	-0.1571%	0.0001%	-0.3546%	-0.9319%
d=800mm	0.1924%	0.3453%	0.0002%	-0.5615%
d=1000mm	0.4228%	0.5731%	0.2341%	-0.3177%
d=1500mm	0.6583%	0.8047%	0.4743%	-0.0637%
d=2000mm	0.7156%	0.8607%	0.5332%	0.0001%

( ) ( ) ( )

N=5 N=3

OVT

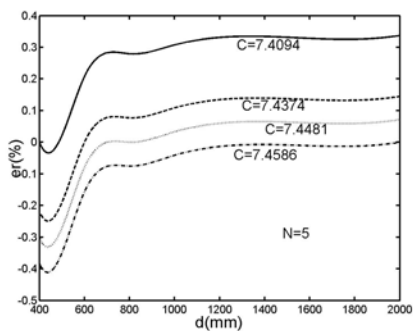
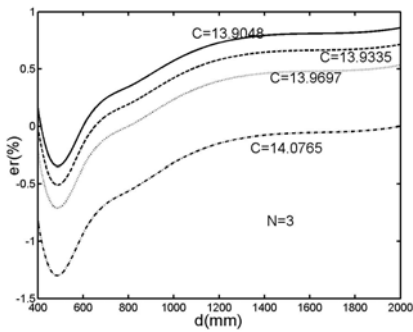
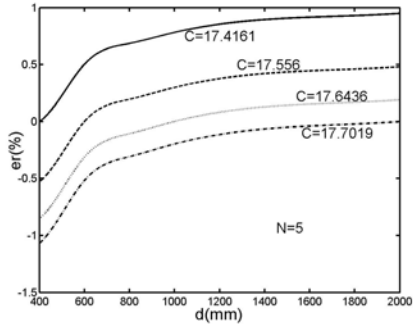
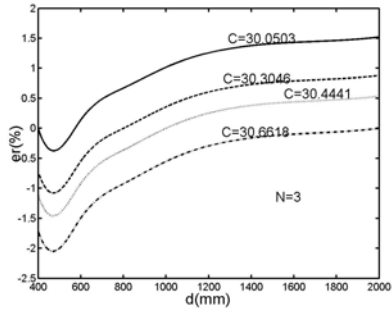
d

.N=5

N=5	C=7.4094	C=7.4374	C=7.4481	C=7.4586
d=400mm	-0.0001%	-0.2189%	-0.3022%	-0.3838%
d=600mm	0.2076%	-0.0002%	-0.0793%	-0.1568%
d=800mm	0.2795%	0.0771%	0.0000%	-0.0754%
d=1000mm	0.3072%	0.1082%	0.0324%	-0.0417%
d=1500mm	0.3317%	0.1375%	0.0636%	-0.0088%
d=2000mm	0.3376%	0.1451%	0.0719%	0.0001%

.N=3

N=3	C=30.0503	C=30.3046	C=30.4441	C=30.6618
d=400mm	0.0000%	0.7211%	1.1119%	1.7150%
d=600mm	0.1393%	0.5488%	0.9216%	1.4971%
d=800mm	0.6710%	0.0001%	-0.3635%	-0.9247%
d=1000mm	1.0179%	0.3578%	0.0001%	-0.5520%
d=1500mm	1.4107%	0.7659%	0.4164%	-0.1229%
d=2000mm	1.5209%	0.8814%	0.5348%	-0.0001%



**N=41**

N=41	error
d=400mm	-10.8599%
d=600mm	-10.3966%
d=800mm	-10.1602%
d=1000mm	-10.0101%
d=1500mm	-9.7989%
d=2000mm	-9.7254%

N=41

e of SID

0.0001% C=17.4161 d=400mm N=5  
d=2000mm N=5  
N=3 0.0000% C=17.7019  
0.0000% C=30.0503 d=400mm  
C=30.6618 d=2000mm  
0.0001%

C=7.4094 d=400mm N=5  
d=2000mm N=5 0.0001%  
N=3 0.0001% C=7.4586  
0.0001% C=13.9335 d=400mm  
C=14.0765 d=2000mm  
0.0001%

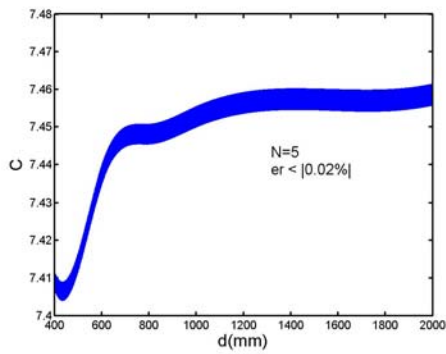
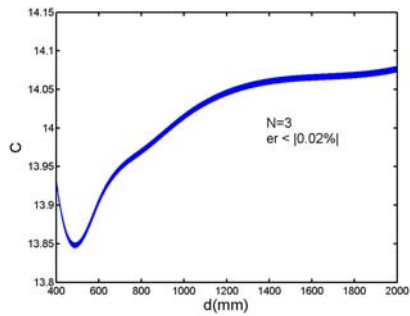
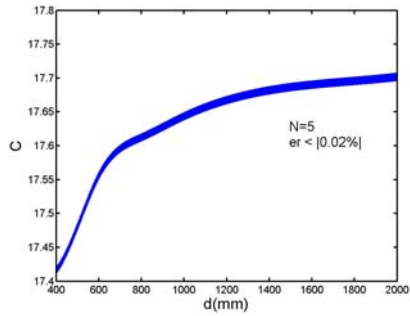
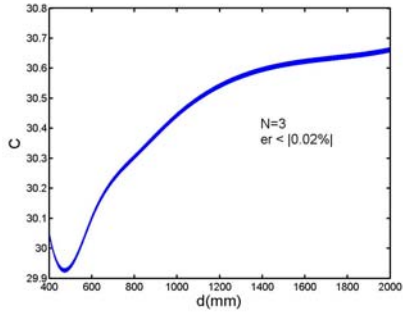
OVT :

(d)  
( (C)  
( N=3  
( N=5  
( N=3

( ) ( ) ( ) ( )

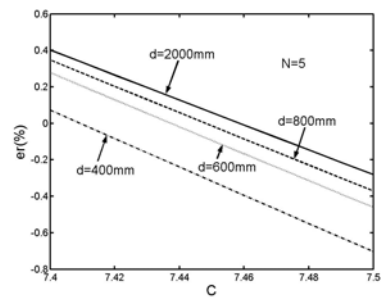
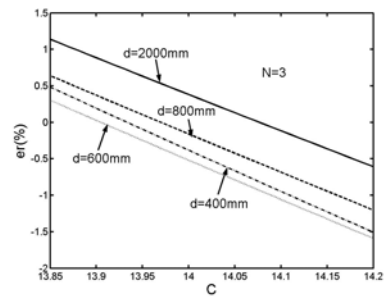
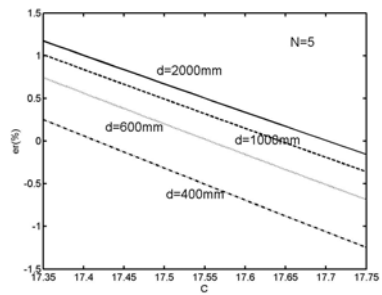
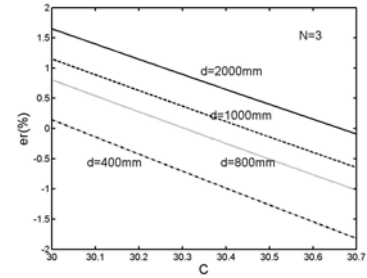
C

.N=5



( )

C



OVT (C) :

(d)

( N=3 |0.02%|

( N=5

( N=3

.N=5

(C)

OVT

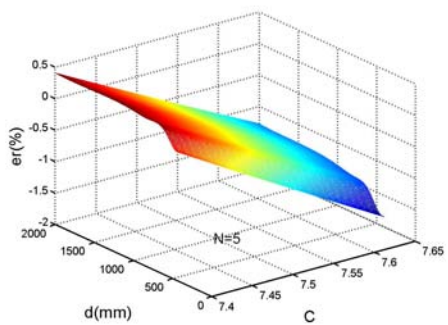
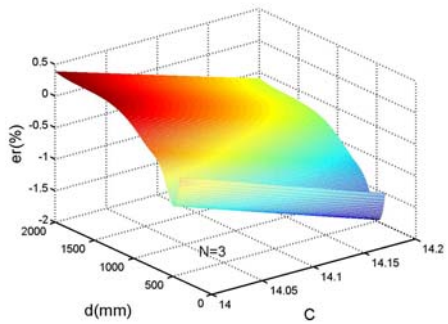
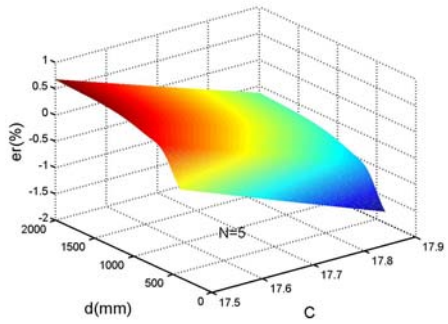
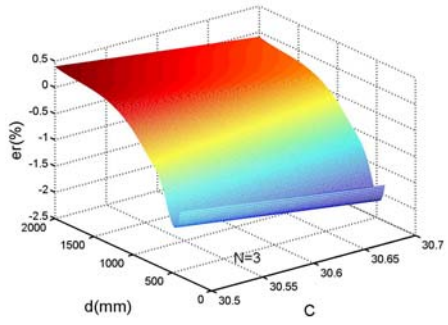
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.N=5



OVT :

(C) (d)

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- 1 - Modified Adaptive Method
- 2 - Correction Factor
- 3 - Integrated Optic Pockels Cell (IOPC)
- 4 - Optical Voltage Transducer