

Hg Sphere-Cap CV-PAS Model

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1 Global Definitions

1.1 Parameters 1

Parameters

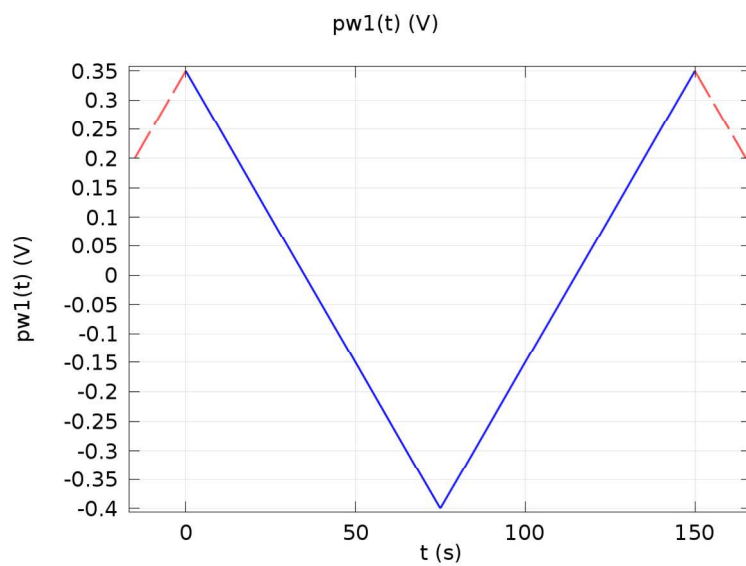
Name	Expression	Description
r1	12.5e-6[m]	Hg drop basal radius
r2	10*r1	Total tip radius
h1	1*r1	Hg cap height
area	$\pi \cdot (r1^2 + h1^2)$	Surface area of Hg
reff	$\text{area} / (2 \cdot (\pi \cdot \text{area} - \pi^2 \cdot r1^2)^{0.5})$	Radius of circle giving rise to correct sphere-cap
zp	10*r1	Length in Z of probe sheath
wcell	40*r1	Side length of cell
d	30*r1	Initial Z-position
nu	0.01 [V/s]	Potential sweep rate
Eint	5e-3 [V]	Potential sampling interval
tint	Eint/nu	Time sampling interval
t	0[s]	Time, a floating parameter that is reset for each parametric sweep
Eox	0.35[V]	Oxidative potential limit
Ered	-0.4[V]	Reductive potential limit
tsw	$\text{abs}(E_{\text{ox}} - E_{\text{red}}) / \text{nu}$	Time elapsed for each linear potential sweep
Eapp	pw1(t)	Potential applied at the probe tip
F	96485.3[C/mol]	Faraday's constant
f	38.92[V ⁻¹]	mph/RT with n=1
ox0	0.5 [mol/m ³]	Initial M ⁺ concentration (in mM)
a	0.5	Electron transfer coefficient (symmetry factor)
E0	0[V]	Standard reduction potential
k0	1[cm/s]	Apparent rate constant for M ⁺ → M(Hg)
kf	$k0 \cdot \exp(-a \cdot f \cdot (E_{\text{app}} - E0))$	Forward, amalgamation
kb	$k0 \cdot \exp((1 - a) \cdot f \cdot (E_{\text{app}} - E0))$	Backward, stripping
Dox	2.0e-6[cm ² /s]	M ⁺ in solution

Name	Expression	Description
Dred	$8.4\text{e-}6[\text{cm}^2/\text{s}]$	M in Hg
RG	$r2/r1$	Ratio of total tip radius to Hg basal plane radius
H	$h1/r1$	Normalized Hg cap height
L	$d/r1$	Normalized Tip-Substrate Gap, measured from Hg basal plane
dstop	$h1 + 0.1*r1$	Smallest allowable tip-substrate gap

1.2 Functions

1.2.1 Piecewise 1

Function name	pw1
Function type	Piecewise



Piecewise 1

Definition

Name	Value
Argument	t
Extrapolation	Periodic
Intervals	$\{[0, t_{\text{sw}}, E_{\text{ox}} - \nu \cdot t], [t_{\text{sw}}, 2 \cdot t_{\text{sw}}, E_{\text{ox}} - 2 \cdot \nu \cdot t_{\text{sw}} + \nu \cdot t]\}$

Units

Name	Value
------	-------

Name	Value
Arguments	s
Function	V

2 Component 1 (comp1)

2.1 Definitions

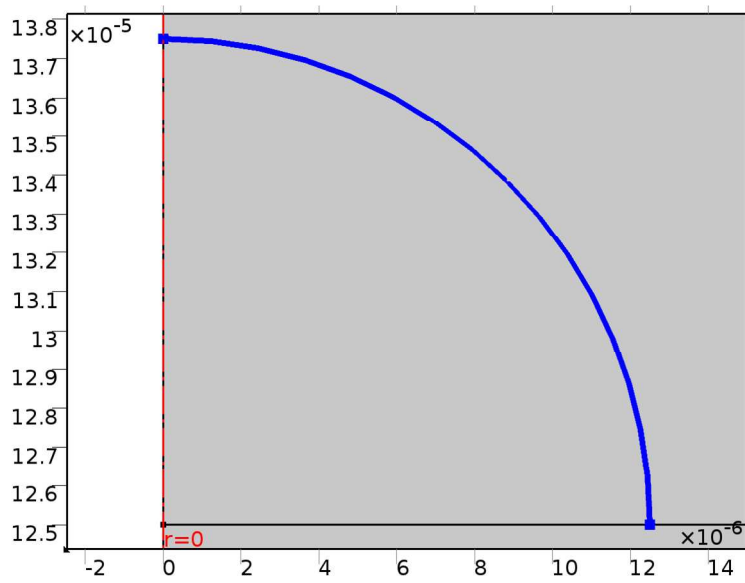
2.1.1 Probes

Global Variable Probe 1

Probe type	Global variable probe
------------	-----------------------

Boundary Probe 1

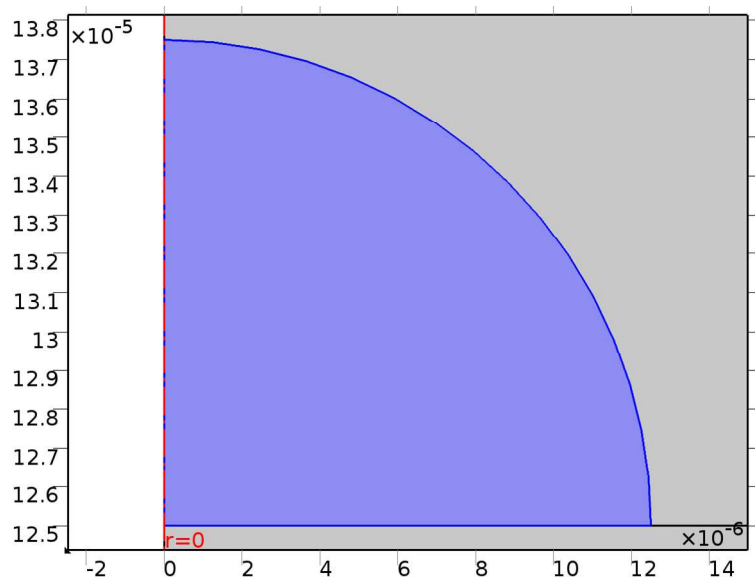
Probe type	Boundary probe
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Selection

Domain Probe 1

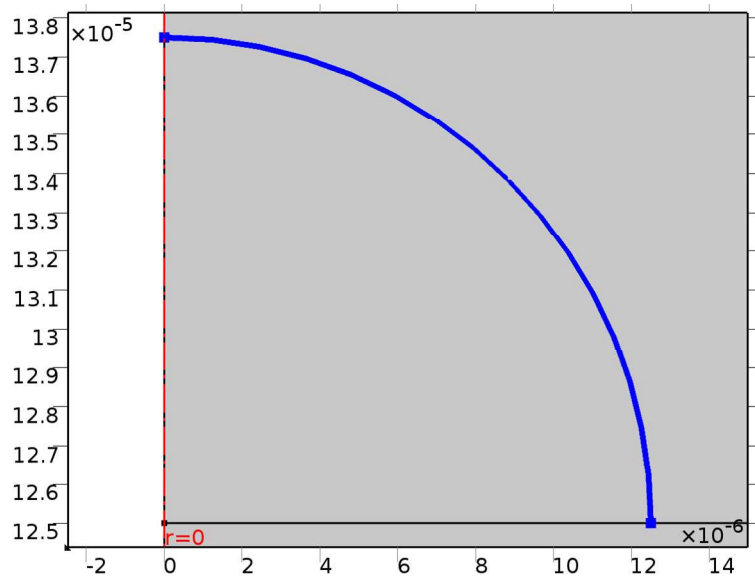
Probe type	Domain probe
------------	--------------



Selection

Boundary Probe 2

Probe type	Boundary probe
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Selection

2.1.2 Coordinate Systems

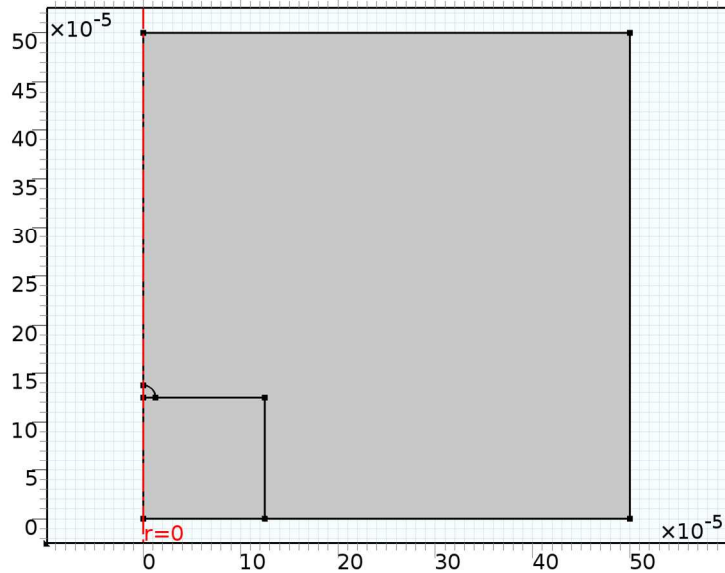
Boundary System 1

Coordinate system type	Boundary system
Identifier	sys1

Settings

Name	Value
Coordinate names	{t1, to, n}
Create first tangent direction from	Global Cartesian

2.2 Geometry 1



Geometry 1

Units

Length unit	m
Angular unit	deg

Geometry statistics

Property	Value
Space dimension	2
Number of domains	3
Number of boundaries	11
Number of vertices	9

2.2.1 Rectangle 1 (r1)

Position

Name	Value
Position	{r2, 0}
Width	wcell - r2

Name	Value
Height	zp
Size	{wcell - r2, zp}

2.2.2 Rectangle 2 (r2)

Position

Name	Value
Position	{0, zp}
Width	wcell
Height	d
Size	{wcell, d}

2.2.3 Rectangle 3 (r3)

Position

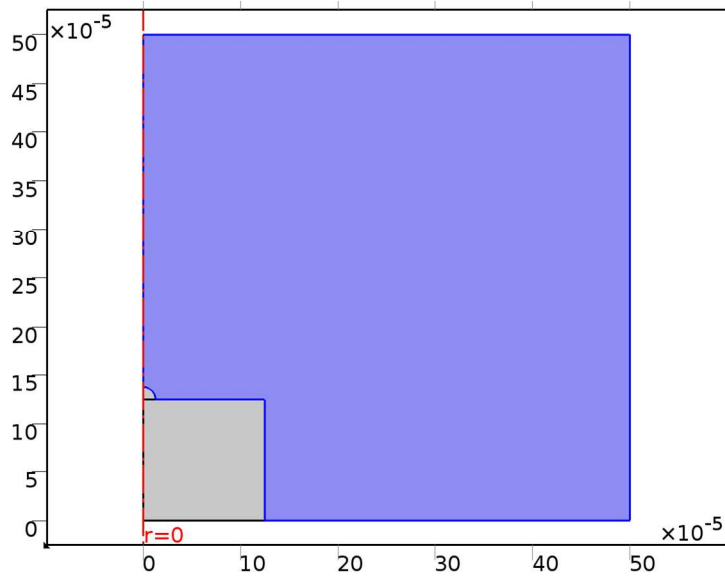
Name	Value
Position	{0, 0}
Width	r2
Height	zp
Size	{r2, zp}

2.2.4 Circle 1 (c1)

Position

Name	Value
Position	{0, zp + h1 - reff}
Radius	reff

2.3 Transport of Diluted Species (chds)



Transport of Diluted Species

Selection

Geometric entity level	Domain
Selection	Domain 3

Equations

$$\frac{\partial c_i}{\partial t} + \nabla \cdot (-D_i \nabla c_i) = R_i$$

$$\mathbf{N}_i = -D_i \nabla c_i$$

Settings

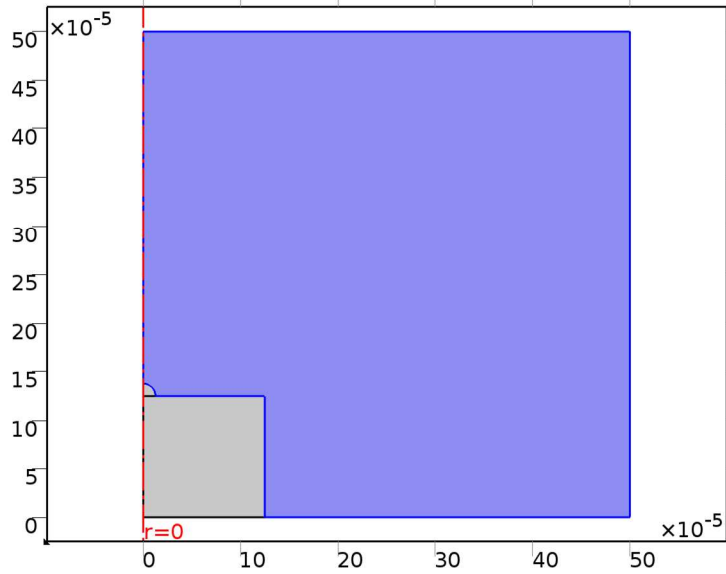
Description	Value
Concentration	Linear
Compute boundary fluxes	On
Apply smoothing to boundary fluxes	On
Value type when using splitting of complex variables	Real
Migration in electric field	0
Convection	0
Convective term	Non - conservative form
Equation residual	Approximate residual
Enable space-dependent physics interfaces	0
Synchronize with COMSOL Multiphysics	

Variables

Name	Expression	Unit	Description	Selection
chds.nr	nr		Normal vector, r component	Boundaries 5–11
chds.nphi	root.nphi		Normal vector, phi component	Boundaries 5–11
chds.nz	nz		Normal vector, z component	Boundaries 5–11
chds.nrmesh	root.nrmesh		Normal vector (mesh), r component	Boundaries 5–11
chds.nphimesh	root.nphimesh		Normal vector (mesh), phi component	Boundaries 5–11
chds.nzmesh	root.nzmesh		Normal vector (mesh), z component	Boundaries 5–11
chds.R_ox	0	mol/(m ³ *s)	Total rate expression	Domain 3
domflux.oxr	2*chds.dfluxr_ox*pi*r	mol/(m*s)	Domain flux	Domain 3
domflux.oxz	2*chds.dfluxz_ox*pi*r	mol/(m*s)	Domain flux	Domain 3
chds.nrc	root.nrc/sqrt(root.nrc^2+root.nzc^2+eps)		Normal vector, r component	Boundaries 5–11
chds.nphic	0		Normal vector, phi component	Boundaries 5–11
chds.nzc	root.nzc/sqrt(root.nrc^2+root.nzc^2+eps)		Normal vector, z component	Boundaries 5–11
chds.bndFlux_ox	if(r>0.0010/sqrt(sqrt(mean(emet ric2))),-0.5*uflux_spatial(ox)/(r*pi),NaN)	mol/(m ² *s)	Boundary flux	Boundaries 7, 11
chds.bndFlux_ox	if(r>0.0010/sqrt(sqrt(mean(emet ric2))),-0.5*dflux_spatial(ox)/(r*pi),NaN)	mol/(m ² *s)	Boundary flux	Boundaries 5–6, 8–10
chds.ntflux_ox	chds.bndFlux_ox	mol/(m ² *s)	Normal total flux	Boundaries 5–11
chds.ndflux_ox	chds.bndFlux_ox	mol/(m ² *s)	Normal	Boundaries

Name	Expression	Unit	Description	Selection
			diffusive flux	5–11

2.3.1 Diffusion



Diffusion

Selection

Geometric entity level	Domain
Selection	Domain 3

Equations

$$\frac{\partial c_i}{\partial t} + \nabla \cdot (-D_i \nabla c_i) = R_i$$

.....

$$\mathbf{N}_i = -D_i \nabla c_i$$

Settings

Settings

Description	Value
Velocity field	User defined
Velocity field	{0, 0, 0}
Electric potential	User defined
Electric potential	0
Diffusion coefficient	User defined
Diffusion coefficient	{{Dox, 0, 0}, {0, Dox, 0}, {0, 0, Dox}}

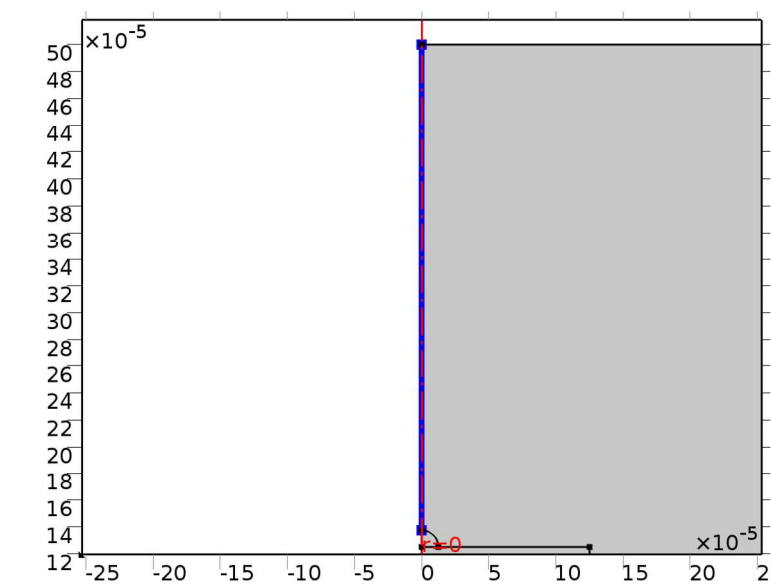
Description	Value
Bulk material	None

Variables

Name	Expression	Unit	Description	Selection
chds.Drr_ox	Dox	m ² /s	Diffusion coefficient, rr component	Domain 3
chds.Dphir_ox	0	m ² /s	Diffusion coefficient, phir component	Domain 3
chds.Dzr_ox	0	m ² /s	Diffusion coefficient, zr component	Domain 3
chds.Drphi_ox	0	m ² /s	Diffusion coefficient, rphi component	Domain 3
chds.Dphiphi_ox	Dox	m ² /s	Diffusion coefficient, phiphi component	Domain 3
chds.Dzphi_ox	0	m ² /s	Diffusion coefficient, zphi component	Domain 3
chds.Drz_ox	0	m ² /s	Diffusion coefficient, rz component	Domain 3
chds.Dphiz_ox	0	m ² /s	Diffusion coefficient, phiz component	Domain 3
chds.Dzz_ox	Dox	m ² /s	Diffusion coefficient, zz component	Domain 3
chds.Dav_ox	0.5*(chds.Drr_ox+chds.Dzz_ox)	m ² /s	Average diffusion coefficient	Domain 3
chds.tfluxr_ox	-chds.Drr_ox*oxr-chds.Drz_ox*oxz	mol/(m ² *s)	Total flux, r component	Domain 3
chds.tfluxphi_ox	-chds.Dphir_ox*oxr-chds.Dphiz_ox*oxz	mol/(m ² *s)	Total flux, phi component	Domain 3

Name	Expression	Unit	Description	Selection
chds.tfluxz_ox	$-\text{chds.Dzr_ox} \cdot \text{oxr} - \text{chds.Dzz_ox} \cdot \text{oxz}$	$\text{mol}/(\text{m}^2 \cdot \text{s})$	Total flux, z component	Domain 3
chds.dfluxr_ox	$-\text{chds.Drr_ox} \cdot \text{oxr} - \text{chds.Drz_ox} \cdot \text{oxz}$	$\text{mol}/(\text{m}^2 \cdot \text{s})$	Diffusive flux, r component	Domain 3
chds.dfluxphi_ox	$-\text{chds.Dphir_ox} \cdot \text{oxr} - \text{chds.Dphiz_ox} \cdot \text{oxz}$	$\text{mol}/(\text{m}^2 \cdot \text{s})$	Diffusive flux, phi component	Domain 3
chds.dfluxz_ox	$-\text{chds.Dzr_ox} \cdot \text{oxr} - \text{chds.Dzz_ox} \cdot \text{oxz}$	$\text{mol}/(\text{m}^2 \cdot \text{s})$	Diffusive flux, z component	Domain 3
chds.gradr_ox	oxr	mol/m^4	Concentration gradient, r component	Domain 3
chds.gradphi_ox	0	mol/m^4	Concentration gradient, phi component	Domain 3
chds.gradz_ox	oxz	mol/m^4	Concentration gradient, z component	Domain 3
chds.dfluxMag_ox	$\sqrt{\text{chds.dfluxr_ox}^2 + \text{chds.dfluxphi_ox}^2 + \text{chds.dfluxz_ox}^2}$	$\text{mol}/(\text{m}^2 \cdot \text{s})$	Diffusive flux magnitude	Domain 3
chds.tfluxMag_ox	$\sqrt{\text{chds.tfluxr_ox}^2 + \text{chds.tfluxphi_ox}^2 + \text{chds.tfluxz_ox}^2}$	$\text{mol}/(\text{m}^2 \cdot \text{s})$	Total flux magnitude	Domain 3
chds.helem	h	m	Element size	Domain 3
chds.Res_ox	$-\text{chds.R_ox}$	$\text{mol}/(\text{m}^3 \cdot \text{s})$	Equation residual	Domain 3

2.3.2 Axial Symmetry 1

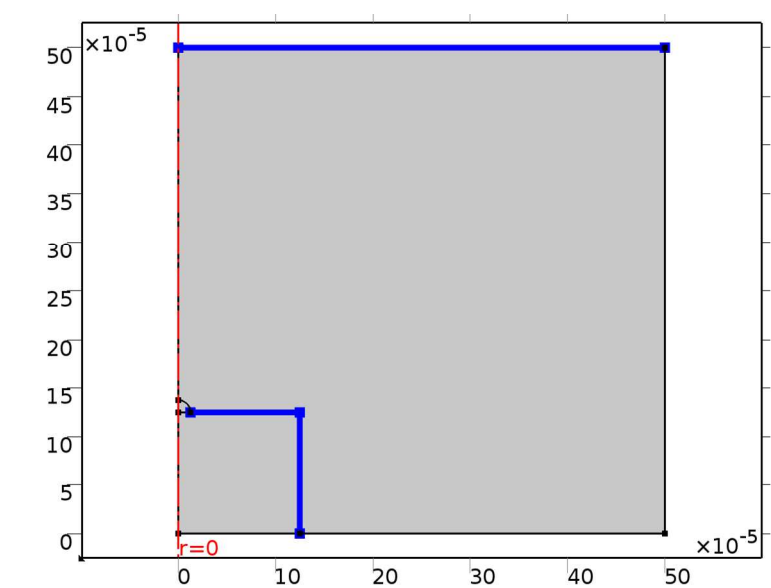


Axial Symmetry 1

Selection

Geometric entity level	Boundary
Selection	Boundary 5

2.3.3 No Flux 1



No Flux 1

Selection

Geometric entity level	Boundary
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Selection	Boundaries 6–8
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Equations

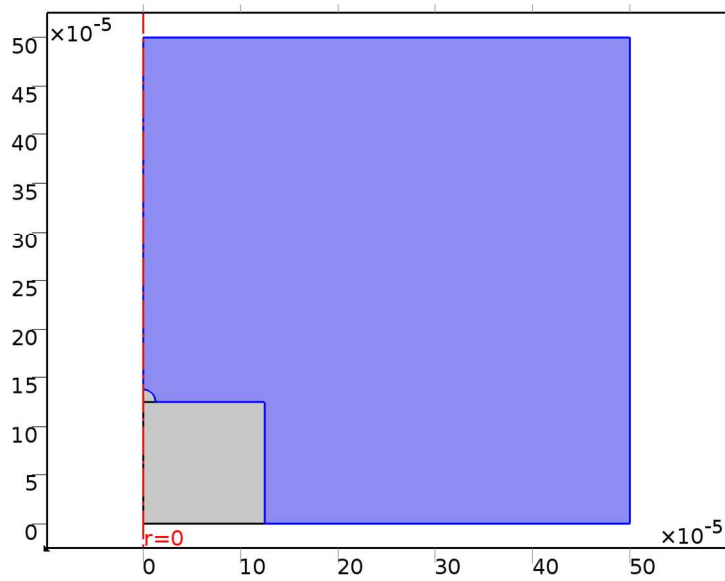
$$-\mathbf{n} \cdot \mathbf{N}_i = 0$$

Settings

Settings

Description	Value
Apply for all species	Apply for all species

2.3.4 Initial Values 1



Initial Values 1

Selection

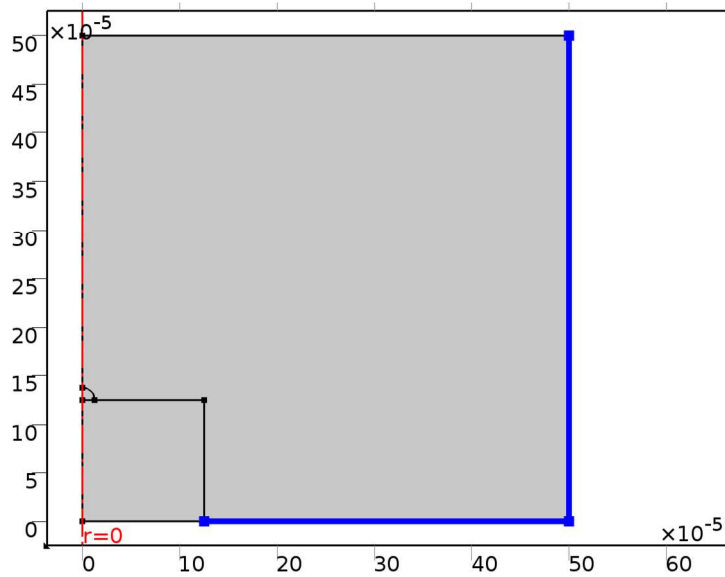
Geometric entity level	Domain
Selection	Domain 3

Settings

Settings

Description	Value
Concentration	ox0

2.3.5 Open Boundary 1



Open Boundary 1

Selection

Geometric entity level	Boundary
Selection	Boundaries 9–10

Equations

$$\begin{cases} -\mathbf{n} \cdot D_i \nabla c_i = 0 & \text{if } \mathbf{n} \cdot \mathbf{u} \geq 0 \\ c_i = c_{0i} & \text{if } \mathbf{n} \cdot \mathbf{u} < 0 \end{cases}$$

Settings

Settings

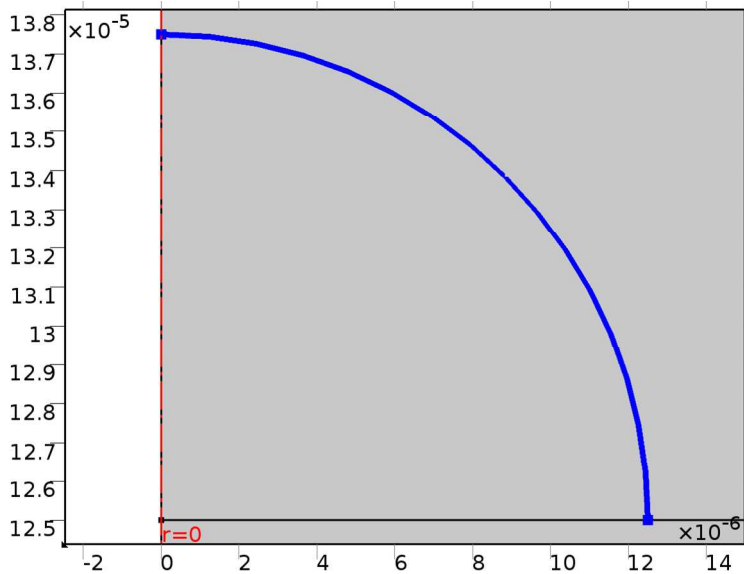
Description	Value
Concentration	ox0

Variables

Name	Expression	Unit	Description	Selection
chds.cjump_ox	ox-chds.c0_ox	mol/m ³	Concentration jump	Boundaries 9–10
chds.jump_pen_ox	48*root.comp1.chds.open1.Dphere_ox1^2*h/(root.comp1.chds.open1.Dphere_ox2*dvol)	m/s	Boundary condition jump penalty term	Boundaries 9–10
chds.Dgradcn_ox	chds.nrmesh*(chds.Drr_ox*oxr+chds.Drz_ox*oxz)+	mol/(m ² *s)	Boundary condition help	Boundaries 9–10

Name	Expression	Unit	Description	Selection
	chds.nzmesh*(chds.Dzr_ox*oxr+chds.Dzz_ox*oxz)		variable	
chds.DTestgradcn_ox	chds.nrmesh*(chds.Drr_ox*test(oxr)+chds.Drz_ox*test(oxz))+chds.nzmesh*(chds.Dzr_ox*test(oxr)+chds.Dzz_ox*test(oxz))	mol/(m^2*s)	Boundary condition help variable	Boundaries 9–10
chds.upwind_ox	0	mol/(m^2*s)	Boundary condition upwinding term	Boundaries 9–10
chds.c0_ox	ox0	mol/m^3	Concentration	Boundaries 9–10

2.3.6 Flux 1



Flux 1

Selection

Geometric entity level	Boundary
Selection	Boundary 11

Equations

$$-\mathbf{n} \cdot \mathbf{N}_i = N_{0i}$$

Settings

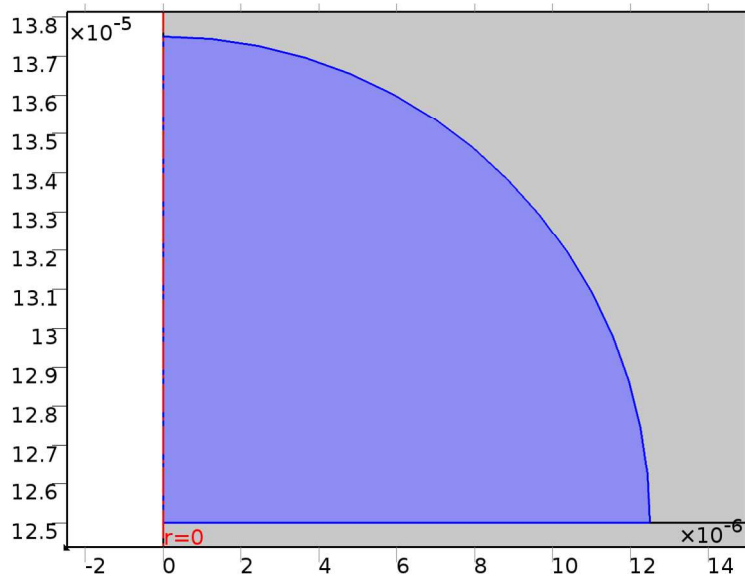
Settings

Description	Value
Species ox	On
Inward flux	-(kf*ox - kb*red)
Flux type	General inward flux

Variables

Name	Expression	Unit	Description	Selection
chds.cb_ox	0	mol/m^3	Bulk concentration	Boundary 11
chds.kc_ox	0	m/s	Mass transfer coefficient	Boundary 11

2.4 Transport of Diluted Species 2 (chds2)



Transport of Diluted Species 2

Selection

Geometric entity level	Domain
Selection	Domain 2

Equations

$$\frac{\partial c_i}{\partial t} + \nabla \cdot (-D_i \nabla c_i) = R_i$$

$$\mathbf{N}_i = -D_i \nabla c_i$$

Settings

Description	Value
Concentration	Linear

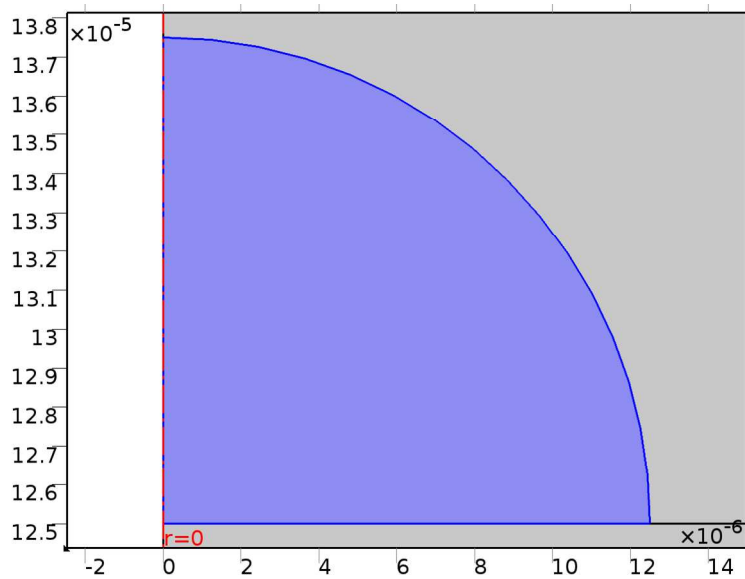
Description	Value
Compute boundary fluxes	On
Apply smoothing to boundary fluxes	On
Value type when using splitting of complex variables	Real
Migration in electric field	0
Convection	0
Convective term	Non - conservative form
Equation residual	Approximate residual
Enable space-dependent physics interfaces	0
Synchronize with COMSOL Multiphysics	

Variables

Name	Expression	Unit	Description	Selection
chds2.nr	nr		Normal vector, r component	Boundaries 3–4, 11
chds2.nphi	root.nphi		Normal vector, phi component	Boundaries 3–4, 11
chds2.nz	nz		Normal vector, z component	Boundaries 3–4, 11
chds2.nrmesh	root.nrmesh		Normal vector (mesh), r component	Boundaries 3–4, 11
chds2.nphimesh	root.nphimesh		Normal vector (mesh), phi component	Boundaries 3–4, 11
chds2.nzmesh	root.nzmesh		Normal vector (mesh), z component	Boundaries 3–4, 11
chds2.R_red	0	mol/(m ³ *s)	Total rate expression	Domain 2
domflux.redr	2*chds2.dfluxr_red*pi*r	mol/(m*s)	Domain flux	Domain 2
domflux.redz	2*chds2.dfluxz_red*pi*r	mol/(m*s)	Domain flux	Domain 2
chds2.nrc	root.nrc/sqrt(root.nrc^2+root.nzc^2+eps)		Normal vector, r component	Boundaries 3–4, 11
chds2.nphic	0		Normal vector, phi component	Boundaries 3–4, 11

Name	Expression	Unit	Description	Selection
chds2.nzc	root.nzc/sqrt(root.nrc^2+root.nzc^2+eps)		Normal vector, z component	Boundaries 3–4, 11
chds2.bndFlux_red	if(r>0.0010/sqrt(sqrt(mean(ematic2))),-0.5*dflux_spatial(red)/(r*pi),NaN)	mol/(m^2*s)	Boundary flux	Boundaries 3–4, 11
chds2.ntflux_red	chds2.bndFlux_red	mol/(m^2*s)	Normal total flux	Boundaries 3–4, 11
chds2.ndflux_red	chds2.bndFlux_red	mol/(m^2*s)	Normal diffusive flux	Boundaries 3–4, 11

2.4.1 Diffusion



Diffusion

Selection

Geometric entity level	Domain
Selection	Domain 2

Equations

$$\frac{\partial c_i}{\partial t} + \nabla \cdot (-D_i \nabla c_i) = R_i$$

.....

$$\mathbf{N}_i = -D_i \nabla c_i$$

Settings

Settings

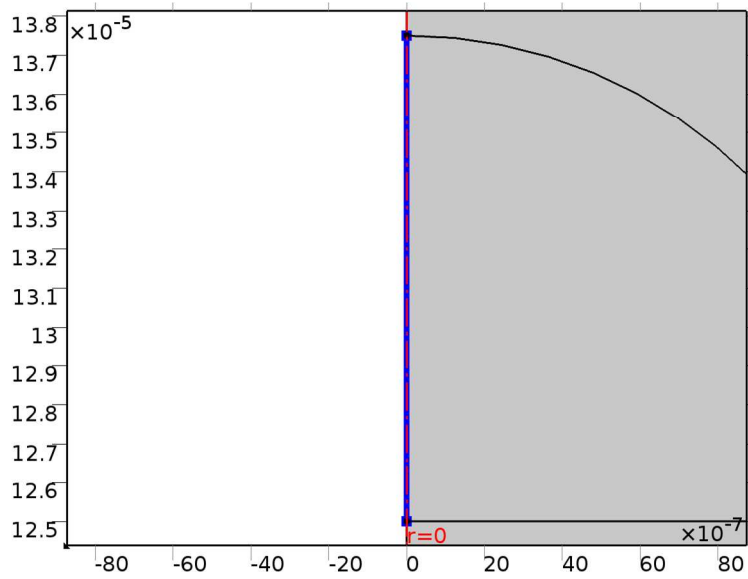
Description	Value
Velocity field	User defined
Velocity field	{0, 0, 0}
Electric potential	User defined
Electric potential	0
Diffusion coefficient	User defined
Diffusion coefficient	{{Dred, 0, 0}, {0, Dred, 0}, {0, 0, Dred}}
Bulk material	None

Variables

Name	Expression	Unit	Description	Selection
chds2.Drr_red	Dred	m ² /s	Diffusion coefficient, rr component	Domain 2
chds2.Dphir_red	0	m ² /s	Diffusion coefficient, phir component	Domain 2
chds2.Dzr_red	0	m ² /s	Diffusion coefficient, zr component	Domain 2
chds2.Drphi_red	0	m ² /s	Diffusion coefficient, rphi component	Domain 2
chds2.Dphiphi_red	Dred	m ² /s	Diffusion coefficient, phiphi component	Domain 2
chds2.Dzphi_red	0	m ² /s	Diffusion coefficient, zphi component	Domain 2
chds2.Drz_red	0	m ² /s	Diffusion coefficient, rz component	Domain 2
chds2.Dphiz_red	0	m ² /s	Diffusion coefficient, phiz component	Domain 2
chds2.Dzz_red	Dred	m ² /s	Diffusion coefficient, zz component	Domain 2

Name	Expression	Unit	Description	Selection
chds2.Dav_red	$0.5 \cdot (\text{chds2.Drr_red} + \text{chds2.Dzz_red})$	m^2/s	Average diffusion coefficient	Domain 2
chds2.tfluxr_red	$-\text{chds2.Drr_red} \cdot \text{redr} - \text{chds2.Drz_red} \cdot \text{redz}$	$\text{mol}/(\text{m}^2 \cdot \text{s})$	Total flux, r component	Domain 2
chds2.tfluxphi_red	$-\text{chds2.Dphir_red} \cdot \text{redr} - \text{chds2.Dphiz_red} \cdot \text{redz}$	$\text{mol}/(\text{m}^2 \cdot \text{s})$	Total flux, phi component	Domain 2
chds2.tfluxz_red	$-\text{chds2.Dzr_red} \cdot \text{redr} - \text{chds2.Dzz_red} \cdot \text{redz}$	$\text{mol}/(\text{m}^2 \cdot \text{s})$	Total flux, z component	Domain 2
chds2.dfluxr_red	$-\text{chds2.Drr_red} \cdot \text{redr} - \text{chds2.Drz_red} \cdot \text{redz}$	$\text{mol}/(\text{m}^2 \cdot \text{s})$	Diffusive flux, r component	Domain 2
chds2.dfluxphi_red	$-\text{chds2.Dphir_red} \cdot \text{redr} - \text{chds2.Dphiz_red} \cdot \text{redz}$	$\text{mol}/(\text{m}^2 \cdot \text{s})$	Diffusive flux, phi component	Domain 2
chds2.dfluxz_red	$-\text{chds2.Dzr_red} \cdot \text{redr} - \text{chds2.Dzz_red} \cdot \text{redz}$	$\text{mol}/(\text{m}^2 \cdot \text{s})$	Diffusive flux, z component	Domain 2
chds2.gradr_red	redr	mol/m^4	Concentration gradient, r component	Domain 2
chds2.gradphi_red	0	mol/m^4	Concentration gradient, phi component	Domain 2
chds2.gradz_red	redz	mol/m^4	Concentration gradient, z component	Domain 2
chds2.dfluxMag_red	$\sqrt{\text{chds2.dfluxr_red}^2 + \text{chds2.dfluxphi_red}^2 + \text{chds2.dfluxz_red}^2}$	$\text{mol}/(\text{m}^2 \cdot \text{s})$	Diffusive flux magnitude	Domain 2
chds2.tfluxMag_red	$\sqrt{\text{chds2.tfluxr_red}^2 + \text{chds2.tfluxphi_red}^2 + \text{chds2.tfluxz_red}^2}$	$\text{mol}/(\text{m}^2 \cdot \text{s})$	Total flux magnitude	Domain 2
chds2.helem	h	m	Element size	Domain 2
chds2.Res_red	$-\text{chds2.R_red}$	$\text{mol}/(\text{m}^3 \cdot \text{s})$	Equation residual	Domain 2

2.4.2 Axial Symmetry 1

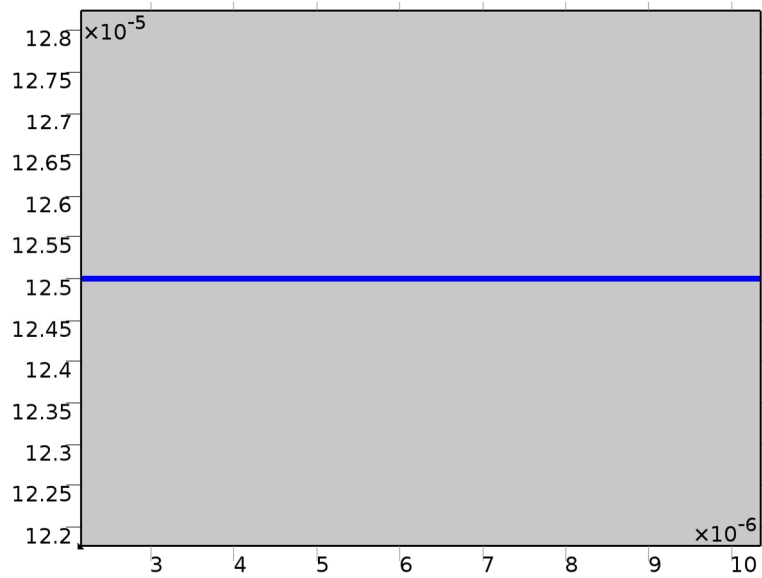


Axial Symmetry 1

Selection

Geometric entity level	Boundary
Selection	Boundary 3

2.4.3 No Flux 1



No Flux 1

Selection

Geometric entity level	Boundary

Selection	Boundary 4
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Equations

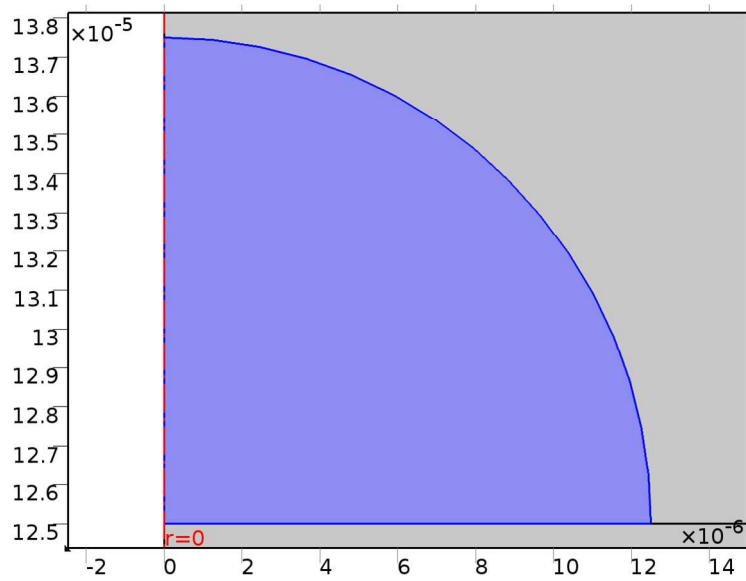
$$-\mathbf{n} \cdot \mathbf{N}_i = 0$$

Settings

Settings

Description	Value
Apply for all species	Apply for all species

2.4.4 Initial Values 1



Initial Values 1

Selection

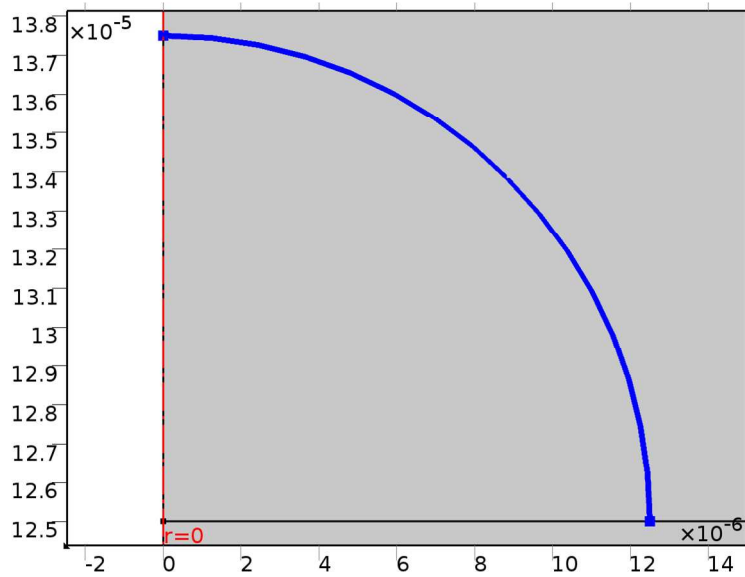
Geometric entity level	Domain
Selection	Domain 2

Settings

Settings

Description	Value
Concentration	0

2.4.5 Flux 1



Flux 1

Selection

Geometric entity level	Boundary
Selection	Boundary 11

Equations

$$-\mathbf{n} \cdot \mathbf{N}_i = N_{0i}$$

Settings

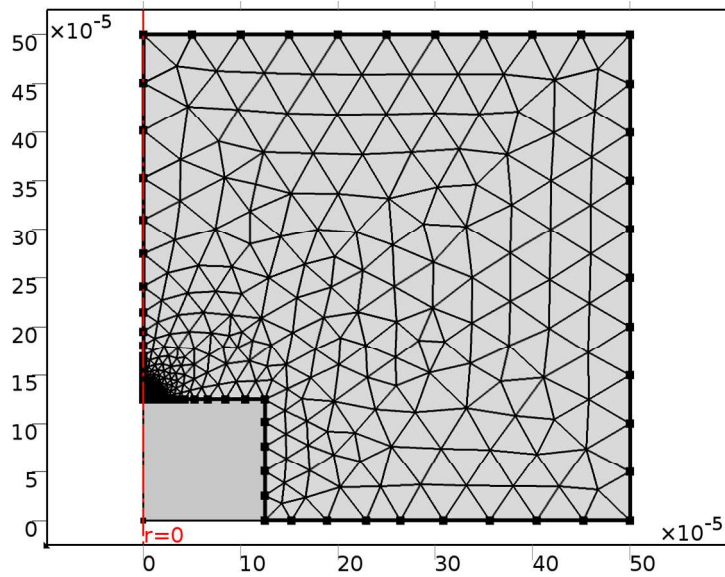
Settings

Description	Value
Species red	On
Inward flux	(kf*ox - kb*red)
Flux type	General inward flux

Variables

Name	Expression	Unit	Description	Selection
chds2.cb_red	0	mol/m^3	Bulk concentration	Boundary 11
chds2.kc_red	0	m/s	Mass transfer coefficient	Boundary 11

2.5 Mesh 1



Mesh 1

2.5.1 Size (size)

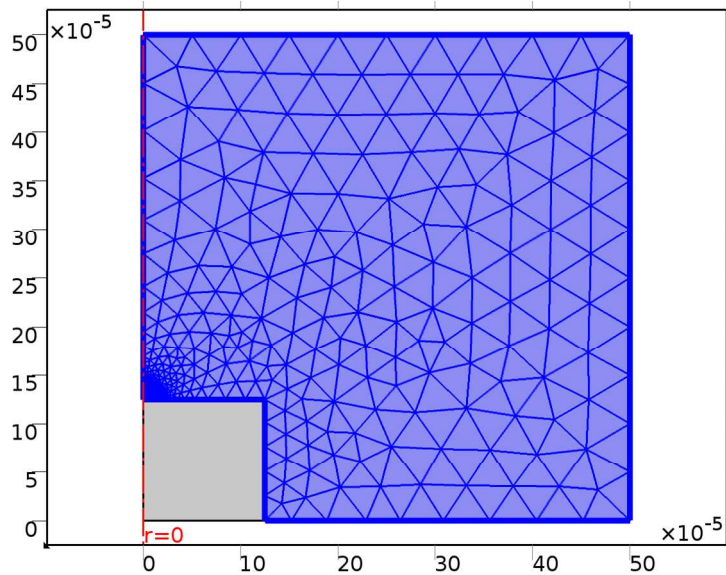
Settings

Name	Value
Maximum element size	5E-5
Minimum element size	0.1E-9
Curvature factor	0.3
Resolution of narrow regions	5
Maximum element growth rate	1.3
Custom element size	Custom

2.5.2 Free Triangular 2 (ftri2)

Selection

Geometric entity level	Domain
Selection	Domains 2–3



Free Triangular 2

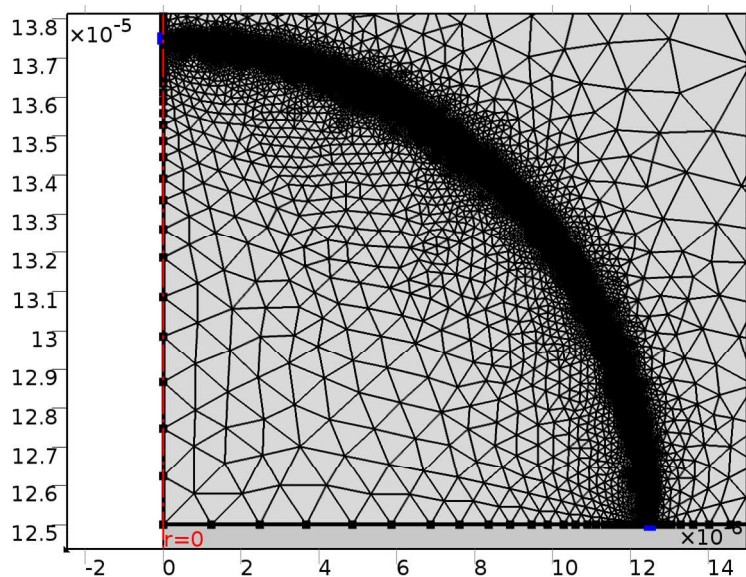
Settings

Name	Value
Method	Advancing front

Distribution 1 (dis1)

Selection

Geometric entity level	Boundary
Selection	Boundary 11



Distribution 1

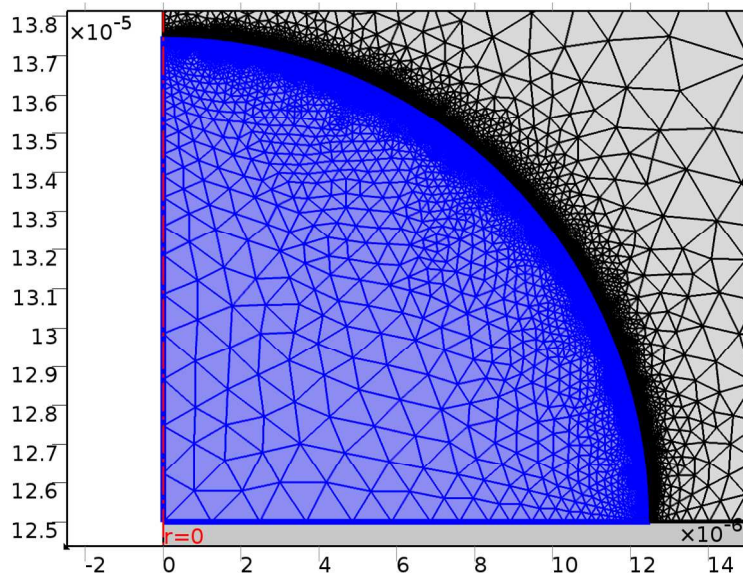
Settings

Name	Value
Distribution properties	Predefined distribution type
Number of elements	400

2.5.3 Refine 1 (ref1)

Selection

Geometric entity level	Domain
Selection	Domain 2



Refine 1

Settings

Name	Value
Number of refinements	1

3 Study 1

3.1 Parametric Sweep 2

Parameter	Values
h1 (Hg cap height)	2.5e-6 [m], 6.25e-6 [m], 1.25e-5 [m]
r2 (Total tip radius)	10*r1, 5*r1, 2*r1
nu (Potential sweep rate)	1e-3 [V/s], 1e-2 [V/s], 1e-1 [V/s], 1e-0 [V/s]
Dox (M+ in solution)	4e-10[m^2/s], 2e-10[m^2/s], 1e-10[m^2/s]

3.2 Parametric Sweep

Parameter	Values
d (Initial Z-position)	range(30*r1,-5*r1,10*r1) range(9*r1,-1*r1,5*r1) range(4.5*r1,-0.5*r1,2.5*r1) range(2.4*r1,-0.1*r1,dstop)

3.3 Time Dependent

Study settings

Property	Value
Include geometric nonlinearity	Off

Times: range(0,tint,2*tsw)

Mesh selection

Geometry	Mesh
Geometry 1 (geom1)	mesh1

Physics selection

Physics	Discretization
Transport of Diluted Species (chds)	physics
Transport of Diluted Species 2 (chds2)	physics

3.4 Solver Configurations

3.4.1 Solver 1

Compile Equations: Time Dependent (st1)

Study and step

Name	Value
------	-------

Name	Value
Use study	Study 1
Use study step	Time Dependent

Dependent Variables 1 (v1)

General

Name	Value
Defined by study step	Time Dependent

Initial values of variables solved for

Name	Value
Solution	Zero

Values of variables not solved for

Name	Value
Solution	Zero

Concentration (comp1.ox) (comp1_ox)

General

Name	Value
Field components	comp1.ox

Concentration (comp1.red) (comp1_red)

General

Name	Value
Field components	comp1.red
Field name	comp1_c

Time-Dependent Solver 1 (t1)

General

Name	Value
Defined by study step	Time Dependent
Time	{0, 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13, 13.5, 14, 14.5, 15, 15.5, 16, 16.5, 17, 17.5, 18, 18.5, 19, 19.5, 20, 20.5, 21, 21.5, 22, 22.5, 23, 23.5, 24, 24.5, 25, 25.5, 26, 26.5, 27, 27.5, 28, 28.5, 29, 29.5, 30, 30.5, 31, 31.5, 32, 32.5, 33, 33.5, 34, 34.5, 35, 35.5, 36, 36.5, 37, 37.5, 38, 38.5, 39, 39.5, 40, 40.5, 41, 41.5, 42, 42.5, 43, 43.5, 44, 44.5, 45, 45.5, 46, 46.5, 47, 47.5, 48, 48.5, 49, 49.5, 50, 50.5, 51, 51.5, 52, 52.5, 53, 53.5, 54, 54.5, 55, 55.5, 56, 56.5, 57, 57.5, 58,

Name	Value
	58.5, 59, 59.5, 60, 60.5, 61, 61.5, 62, 62.5, 63, 63.5, 64, 64.5, 65, 65.5, 66, 66.5, 67, 67.5, 68, 68.5, 69, 69.5, 70, 70.5, 71, 71.5, 72, 72.5, 73, 73.5, 74, 74.5, 75, 75.5, 76, 76.5, 77, 77.5, 78, 78.5, 79, 79.5, 80, 80.5, 81, 81.5, 82, 82.5, 83, 83.5, 84, 84.5, 85, 85.5, 86, 86.5, 87, 87.5, 88, 88.5, 89, 89.5, 90, 90.5, 91, 91.5, 92, 92.5, 93, 93.5, 94, 94.5, 95, 95.5, 96, 96.5, 97, 97.5, 98, 98.5, 99, 99.5, 100, 100.5, 101, 101.5, 102, 102.5, 103, 103.5, 104, 104.5, 105, 105.5, 106, 106.5, 107, 107.5, 108, 108.5, 109, 109.5, 110, 110.5, 111, 111.5, 112, 112.5, 113, 113.5, 114, 114.5, 115, 115.5, 116, 116.5, 117, 117.5, 118, 118.5, 119, 119.5, 120, 120.5, 121, 121.5, 122, 122.5, 123, 123.5, 124, 124.5, 125, 125.5, 126, 126.5, 127, 127.5, 128, 128.5, 129, 129.5, 130, 130.5, 131, 131.5, 132, 132.5, 133, 133.5, 134, 134.5, 135, 135.5, 136, 136.5, 137, 137.5, 138, 138.5, 139, 139.5, 140, 140.5, 141, 141.5, 142, 142.5, 143, 143.5, 144, 144.5, 145, 145.5, 146, 146.5, 147, 147.5, 148, 148.5, 149, 149.5, 150}

Time stepping

Name	Value
Method	Generalized alpha
Steps taken by solver	Intermediate
Initial step	tint/100
Initial step	On
Maximum step	tint
Maximum step	On

Results while solving

Name	Value
Plot	On
Plot group	Concentration (chds)
Update at	Output from solver

Fully Coupled 1 (fc1)

General

Name	Value
Linear solver	Direct 1

Direct 1 (d1)

General

Name	Value
------	-------

Name	Value
Solver	PARDISO

4 Results

4.1 Derived Values

4.1.1 Global Variable Probe 1

Data

Name	Value
Data set	Probe Solution 2

Expression

Name	Value
Expression	Eapp
Unit	V
Description	Potential

4.1.2 Boundary Probe 1

Data

Name	Value
Data set	Boundary Probe 1

Expression

Name	Value
Expression	$F \cdot 2 \cdot \pi \cdot r \cdot \text{chds.bndFlux_ox}$
Unit	A
Description	Current

4.1.3 Domain Probe 1

Data

Name	Value
Data set	Domain Probe 1

Expression

Name	Value
Expression	red
Unit	mol/m ³
Description	C_M(Hg)

4.1.4 Boundary Probe 2

Data

Name	Value
Data set	Boundary Probe 2

Expression

Name	Value
Expression	ox
Unit	mol/m ³
Description	C_M ⁺ , Surface

4.2 Tables

4.2.1 Probe Table 1

Probe Table 1

t	Potential (V), Global Variable Probe 1	Current (A), Boundary Probe 1	C_M(Hg) (mol/m ³), Domain Probe 1	C_M ⁺ , Surface (mol/m ³), Boundary Probe 2
0	0.35	4.47032e-13	9.35663e-9	0.5
0.5	0.345	-3.78094e-12	8.64355e-7	0.49999
1	0.34	8.21529e-12	5.82952e-7	0.50003
1.5	0.335	-7.01859e-12	1.35766e-6	0.49998
2	0.33	5.56436e-12	1.07917e-6	0.50002
2.5	0.325	-4.15526e-12	1.77806e-6	0.49998
3	0.32	2.94448e-12	1.79901e-6	0.50001
3.5	0.315	-1.97395e-12	2.4496e-6	0.49999
4	0.31	1.24703e-12	2.79356e-6	0.50001
4.5	0.305	-7.23098e-13	3.511e-6	0.5
5	0.3	3.72421e-13	4.19671e-6	0.5
5.5	0.295	-1.42419e-13	5.13218e-6	0.5
6	0.29	1.17623e-14	6.22387e-6	0.5
6.5	0.285	6.45044e-14	7.55756e-6	0.5
7	0.28	-8.98256e-14	9.19216e-6	0.5
7.5	0.275	1.01766e-13	1.11526e-5	0.5
8	0.27	-8.66535e-14	1.35631e-5	0.5

t	Potential (V), Global Variable Probe 1	Current (A), Boundary Probe 1	C_M(Hg) (mol/m³), Domain Probe 1	C_M⁺, Surface (mol/m³), Boundary Probe 2
8.5	0.265	8.0667e-14	1.64634e-5	0.5
9	0.26	-5.49072e-14	2.00114e-5	0.5
9.5	0.255	5.09698e-14	2.43014e-5	0.5
10	0.25	-2.46205e-14	2.95286e-5	0.5
10.5	0.245	2.95749e-14	3.58673e-5	0.5
11	0.24	-3.32866e-15	4.35756e-5	0.5
11.5	0.235	1.8998e-14	5.29347e-5	0.5
12	0.23	1.02754e-14	6.43074e-5	0.5
12.5	0.225	1.71244e-14	7.81216e-5	0.49999
13	0.22	1.98154e-14	9.49039e-5	0.49999
13.5	0.215	2.14944e-14	1.15292e-4	0.49999
14	0.21	2.87787e-14	1.40058e-4	0.49999
14.5	0.205	3.07593e-14	1.70146e-4	0.49999
15	0.2	4.00255e-14	2.06696e-4	0.49999
15.5	0.195	4.49493e-14	2.51098e-4	0.49998
16	0.19	5.60861e-14	3.05038e-4	0.49998
16.5	0.185	6.54115e-14	3.70565e-4	0.49998
17	0.18	7.97066e-14	4.50166e-4	0.49997
17.5	0.175	9.48091e-14	5.46866e-4	0.49996
18	0.17	1.14464e-13	6.64337e-4	0.49996
18.5	0.165	1.37341e-13	8.07037e-4	0.49995
19	0.16	1.65456e-13	9.80387e-4	0.49994
19.5	0.155	1.99257e-13	0.00119	0.49992
20	0.15	2.40161e-13	0.00145	0.49991
20.5	0.145	2.89735e-13	0.00176	0.49989
21	0.14	3.49611e-13	0.00213	0.49986
21.5	0.135	4.22243e-13	0.00259	0.49983
22	0.13	5.10066e-13	0.00315	0.4998
22.5	0.125	6.16558e-13	0.00383	0.49975
23	0.12	7.45472e-13	0.00465	0.4997

t	Potential (V), Global Variable Probe 1	Current (A), Boundary Probe 1	C_M(Hg) (mol/m³), Domain Probe 1	C_M⁺, Surface (mol/m³), Boundary Probe 2
23.5	0.115	9.01739e-13	0.00565	0.49963
24	0.11	1.09104e-12	0.00686	0.49956
24.5	0.105	1.32047e-12	0.00833	0.49946
25	0.1	1.59847e-12	0.01012	0.49935
25.5	0.095	1.93537e-12	0.01229	0.4992
26	0.09	2.34357e-12	0.01492	0.49903
26.5	0.085	2.83811e-12	0.01812	0.49883
27	0.08	3.43714e-12	0.022	0.49858
27.5	0.075	4.16251e-12	0.02671	0.49827
28	0.07	5.04057e-12	0.03242	0.49791
28.5	0.065	6.10292e-12	0.03936	0.49746
29	0.06	7.38748e-12	0.04776	0.49692
29.5	0.055	8.93958e-12	0.05794	0.49627
30	0.05	1.08132e-11	0.07028	0.49548
30.5	0.045	1.30724e-11	0.08521	0.49452
31	0.04	1.57928e-11	0.10328	0.49337
31.5	0.035	1.90633e-11	0.12511	0.49199
32	0.03	2.29871e-11	0.15148	0.49032
32.5	0.025	2.76837e-11	0.18328	0.48833
33	0.02	3.32896e-11	0.22156	0.48594
33.5	0.015	3.99586e-11	0.26759	0.48309
34	0.01	4.78614e-11	0.32281	0.4797
34.5	0.005	5.71839e-11	0.3889	0.47568
35	-5.55112e-17	6.81232e-11	0.46777	0.47095
35.5	-0.005	8.08826e-11	0.56161	0.4654
36	-0.01	9.56631e-11	0.67283	0.45894
36.5	-0.015	1.12653e-10	0.80413	0.45146
37	-0.02	1.32014e-10	0.9584	0.44288
37.5	-0.025	1.53871e-10	1.13873	0.4331
38	-0.03	1.78289e-10	1.34832	0.42207

t	Potential (V), Global Variable Probe 1	Current (A), Boundary Probe 1	C_M(Hg) (mol/m³), Domain Probe 1	C_M⁺, Surface (mol/m³), Boundary Probe 2
38.5	-0.035	2.05269e-10	1.59042	0.40976
39	-0.04	2.34728e-10	1.86822	0.39615
39.5	-0.045	2.66496e-10	2.18478	0.38129
40	-0.05	3.00316e-10	2.54286	0.36523
40.5	-0.055	3.35847e-10	2.94485	0.34811
41	-0.06	3.72676e-10	3.39269	0.33006
41.5	-0.065	4.10338e-10	3.88772	0.31127
42	-0.07	4.48336e-10	4.4307	0.29196
42.5	-0.075	4.86164e-10	5.02176	0.27233
43	-0.08	5.23334e-10	5.66038	0.25263
43.5	-0.085	5.59394e-10	6.34544	0.23308
44	-0.09	5.93945e-10	7.0753	0.21389
44.5	-0.095	6.26655e-10	7.84785	0.19525
45	-0.1	6.57266e-10	8.66059	0.17734
45.5	-0.105	6.85594e-10	9.51075	0.16028
46	-0.11	7.11527e-10	10.39535	0.14418
46.5	-0.115	7.35021e-10	11.31135	0.12913
47	-0.12	7.5609e-10	12.25566	0.11515
47.5	-0.125	7.74797e-10	13.22523	0.10227
48	-0.13	7.91243e-10	14.21714	0.09049
48.5	-0.135	8.05559e-10	15.22859	0.07978
49	-0.14	8.17898e-10	16.25698	0.0701
49.5	-0.145	8.28421e-10	17.2999	0.0614
50	-0.15	8.37298e-10	18.35515	0.05362
50.5	-0.155	8.44696e-10	19.42074	0.0467
51	-0.16	8.50779e-10	20.4949	0.04056
51.5	-0.165	8.55702e-10	21.57605	0.03515
52	-0.17	8.59612e-10	22.66282	0.03039
52.5	-0.175	8.62644e-10	23.75399	0.02622
53	-0.18	8.64919e-10	24.84854	0.02258

t	Potential (V), Global Variable Probe 1	Current (A), Boundary Probe 1	C_M(Hg) (mol/m³), Domain Probe 1	C_M⁺, Surface (mol/m³), Boundary Probe 2
53.5	-0.185	8.66549e-10	25.94557	0.01941
54	-0.19	8.67633e-10	27.04431	0.01665
54.5	-0.195	8.68256e-10	28.14414	0.01426
55	-0.2	8.68497e-10	29.24451	0.0122
55.5	-0.205	8.68422e-10	30.34498	0.01042
56	-0.21	8.68088e-10	31.44519	0.00889
56.5	-0.215	8.67545e-10	32.54483	0.00757
57	-0.22	8.66835e-10	33.64368	0.00645
57.5	-0.225	8.65994e-10	34.74153	0.00548
58	-0.23	8.65053e-10	35.83824	0.00465
58.5	-0.235	8.64038e-10	36.9337	0.00395
59	-0.24	8.62968e-10	38.02783	0.00335
59.5	-0.245	8.61862e-10	39.12058	0.00283
60	-0.25	8.60734e-10	40.2119	0.0024
60.5	-0.255	8.59596e-10	41.30177	0.00203
61	-0.26	8.58458e-10	42.39019	0.00171
61.5	-0.265	8.57327e-10	43.47717	0.00145
62	-0.27	8.56208e-10	44.56271	0.00122
62.5	-0.275	8.55108e-10	45.64683	0.00103
63	-0.28	8.54028e-10	46.72957	8.68473e-4
63.5	-0.285	8.52838e-10	47.811	7.3083e-4
64	-0.29	8.51986e-10	48.89107	6.16395e-4
64.5	-0.295	8.50866e-10	49.96986	5.18176e-4
65	-0.3	8.49991e-10	51.04737	4.36394e-4
65.5	-0.305	8.49015e-10	52.12367	3.66843e-4
66	-0.31	8.47879e-10	53.19882	3.07509e-4
66.5	-0.315	8.47223e-10	54.27281	2.59174e-4
67	-0.32	8.46233e-10	55.34568	2.17279e-4
67.5	-0.325	8.45396e-10	56.41747	1.82419e-4
68	-0.33	8.44692e-10	57.4882	1.5338e-4

t	Potential (V), Global Variable Probe 1	Current (A), Boundary Probe 1	C_M(Hg) (mol/m³), Domain Probe 1	C_M⁺, Surface (mol/m³), Boundary Probe 2
68.5	-0.335	8.43786e-10	58.55792	1.28408e-4
69	-0.34	8.43115e-10	59.62665	1.07896e-4
69.5	-0.345	8.42369e-10	60.69443	9.04599e-5
70	-0.35	8.41617e-10	61.76128	7.57677e-5
70.5	-0.355	8.40997e-10	62.82725	6.36175e-5
71	-0.36	8.4028e-10	63.89235	5.32422e-5
71.5	-0.365	8.39653e-10	64.95661	4.46337e-5
72	-0.37	8.39045e-10	66.02005	3.74131e-5
72.5	-0.375	8.38405e-10	67.08271	3.13025e-5
73	-0.38	8.37849e-10	68.14461	2.62462e-5
73.5	-0.385	8.37264e-10	69.20577	2.19676e-5
74	-0.39	8.36706e-10	70.26621	1.83905e-5
74.5	-0.395	8.36185e-10	71.32595	1.54103e-5
75	-0.4	8.35645e-10	72.38502	1.2891e-5
75.5	-0.395	8.34883e-10	73.44342	1.56735e-5
76	-0.39	8.35119e-10	74.50116	1.98967e-5
76.5	-0.385	8.33642e-10	75.55826	2.35193e-5
77	-0.38	8.33789e-10	76.61473	2.95995e-5
77.5	-0.375	8.33123e-10	77.6706	3.61553e-5
78	-0.37	8.32519e-10	78.72587	4.42847e-5
78.5	-0.365	8.32274e-10	79.78056	5.4753e-5
79	-0.36	8.31639e-10	80.83467	6.70291e-5
79.5	-0.355	8.31242e-10	81.8882	8.25061e-5
80	-0.35	8.30797e-10	82.94117	1.01434e-4
80.5	-0.345	8.30284e-10	83.99357	1.2456e-4
81	-0.34	8.29858e-10	85.04541	1.53179e-4
81.5	-0.335	8.29361e-10	86.09667	1.88181e-4
82	-0.33	8.2887e-10	87.14735	2.31232e-4
82.5	-0.325	8.28373e-10	88.19742	2.84141e-4
83	-0.32	8.27832e-10	89.24688	3.49051e-4

t	Potential (V), Global Variable Probe 1	Current (A), Boundary Probe 1	C_M(Hg) (mol/m³), Domain Probe 1	C_M⁺, Surface (mol/m³), Boundary Probe 2
83.5	-0.315	8.27276e-10	90.29568	4.28822e-4
84	-0.31	8.26894e-10	91.34377	5.27604e-4
84.5	-0.305	8.26018e-10	92.39112	6.46936e-4
85	-0.3	8.25602e-10	93.43765	7.95962e-4
85.5	-0.295	8.24569e-10	94.4833	9.75986e-4
86	-0.29	8.23972e-10	95.52794	0.0012
86.5	-0.285	8.22898e-10	96.57143	0.00147
87	-0.28	8.21819e-10	97.61363	0.00181
87.5	-0.275	8.20503e-10	98.65434	0.00222
88	-0.27	8.18977e-10	99.69331	0.00272
88.5	-0.265	8.17191e-10	100.73024	0.00334
89	-0.26	8.1505e-10	101.76474	0.0041
89.5	-0.255	8.1252e-10	102.79635	0.00503
90	-0.25	8.09468e-10	103.82451	0.00618
90.5	-0.245	8.05813e-10	104.84851	0.00758
91	-0.24	8.01391e-10	105.86749	0.00929
91.5	-0.235	7.96048e-10	106.88039	0.01139
92	-0.23	7.89567e-10	107.88593	0.01397
92.5	-0.225	7.817e-10	108.88253	0.01713
93	-0.22	7.72133e-10	109.86823	0.02099
93.5	-0.215	7.60491e-10	110.84068	0.02573
94	-0.21	7.46314e-10	111.79698	0.03152
94.5	-0.205	7.29041e-10	112.73357	0.03861
95	-0.2	7.07992e-10	113.64615	0.04729
95.5	-0.195	6.82342e-10	114.52942	0.05789
96	-0.19	6.51092e-10	115.37697	0.07084
96.5	-0.185	6.13034e-10	116.18098	0.08666
97	-0.18	5.66716e-10	116.93194	0.10595
97.5	-0.175	5.10394e-10	117.61834	0.12946
98	-0.17	4.41985e-10	118.22623	0.15808

t	Potential (V), Global Variable Probe 1	Current (A), Boundary Probe 1	C_M(Hg) (mol/m³), Domain Probe 1	C_M⁺, Surface (mol/m³), Boundary Probe 2
98.5	-0.165	3.5902e-10	118.73881	0.19286
99	-0.16	2.58585e-10	119.13584	0.23506
99.5	-0.155	1.37279e-10	119.39311	0.28616
100	-0.15	-8.81991e-12	119.48178	0.34787
100.5	-0.145	-1.84172e-10	119.36767	0.42217
101	-0.14	-3.93738e-10	119.01065	0.5113
101.5	-0.135	-6.42891e-10	118.36405	0.61772
102	-0.13	-9.37212e-10	117.37422	0.74408
102.5	-0.125	-1.28215e-9	115.98051	0.8931
103	-0.12	-1.6825e-9	114.11575	1.0674
103.5	-0.115	-2.14155e-9	111.70758	1.26916
104	-0.11	-2.66005e-9	108.68102	1.4998
104.5	-0.105	-3.23466e-9	104.96259	1.75934
105	-0.1	-3.85625e-9	100.48662	2.0457
105.5	-0.095	-4.50789e-9	95.20375	2.35392
106	-0.09	-5.16306e-9	89.092	2.67524
106.5	-0.085	-5.78452e-9	82.16957	2.9964
107	-0.08	-6.32473e-9	74.50825	3.29939
107.5	-0.075	-6.7288e-9	66.2446	3.562
108	-0.07	-6.94078e-9	57.5855	3.75961
108.5	-0.065	-6.91357e-9	48.80334	3.86846
109	-0.06	-6.62123e-9	40.21727	3.87022
109.5	-0.055	-6.07061e-9	32.15922	3.75703
110	-0.05	-5.30747e-9	24.9286	3.53547
110.5	-0.045	-4.41253e-9	18.74541	3.22751
111	-0.04	-3.48572e-9	13.71563	2.86716
111.5	-0.035	-2.62242e-9	9.82149	2.49314
112	-0.03	-1.89101e-9	6.94094	2.14002
112.5	-0.025	-1.32115e-9	4.88896	1.83126
113	-0.02	-9.0703e-10	3.46454	1.5769

t	Potential (V), Global Variable Probe 1	Current (A), Boundary Probe 1	C_M(Hg) (mol/m³), Domain Probe 1	C_M⁺, Surface (mol/m³), Boundary Probe 2
113.5	-0.015	-6.21047e-10	2.48726	1.37582
114	-0.01	-4.29283e-10	1.81539	1.22043
114.5	-0.005	-3.01792e-10	1.34772	1.10114
115	2.22045e-16	-2.1638e-10	1.01625	1.00906
115.5	0.005	-1.58155e-10	0.77666	0.93713
116	0.01	-1.17609e-10	0.60025	0.88007
116.5	0.015	-8.87615e-11	0.4682	0.83411
117	0.02	-6.78272e-11	0.36798	0.79653
117.5	0.025	-5.23692e-11	0.29102	0.76539
118	0.03	-4.07834e-11	0.23135	0.73926
118.5	0.035	-3.19888e-11	0.18471	0.7171
119	0.04	-2.52412e-11	0.14801	0.69812
119.5	0.045	-2.0017e-11	0.11897	0.68171
120	0.05	-1.59412e-11	0.09587	0.66742
120.5	0.055	-1.27405e-11	0.07743	0.65489
121	0.06	-1.02133e-11	0.06266	0.64381
121.5	0.065	-8.20842e-12	0.05079	0.63398
122	0.07	-6.6115e-12	0.04123	0.62519
122.5	0.075	-5.33516e-12	0.03351	0.61729
123	0.08	-4.31203e-12	0.02726	0.61018
123.5	0.085	-3.48979e-12	0.0222	0.60372
124	0.09	-2.82755e-12	0.0181	0.59786
124.5	0.095	-2.29317e-12	0.01476	0.5925
125	0.1	-1.86126e-12	0.01205	0.58759
125.5	0.105	-1.51169e-12	0.00984	0.58308
126	0.11	-1.22841e-12	0.00805	0.57892
126.5	0.115	-9.98609e-13	0.00658	0.57507
127	0.12	-8.12031e-13	0.00538	0.57151
127.5	0.125	-6.60431e-13	0.0044	0.5682
128	0.13	-5.37172e-13	0.00361	0.56512

t	Potential (V), Global Variable Probe 1	Current (A), Boundary Probe 1	C_M(Hg) (mol/m³), Domain Probe 1	C_M⁺, Surface (mol/m³), Boundary Probe 2
128.5	0.135	-4.36905e-13	0.00295	0.56224
129	0.14	-3.55306e-13	0.00242	0.55955
129.5	0.145	-2.88878e-13	0.00198	0.55703
130	0.15	-2.34788e-13	0.00163	0.55467
130.5	0.155	-1.90737e-13	0.00133	0.55244
131	0.16	-1.5486e-13	0.00109	0.55035
131.5	0.165	-1.25641e-13	8.96112e-4	0.54838
132	0.17	-1.01846e-13	7.35141e-4	0.54652
132.5	0.175	-8.2473e-14	6.03192e-4	0.54476
133	0.18	-6.67038e-14	4.95008e-4	0.5431
133.5	0.185	-5.38732e-14	4.06288e-4	0.54152
134	0.19	-4.34384e-14	3.33518e-4	0.54003
134.5	0.195	-3.49572e-14	2.73818e-4	0.53861
135	0.2	-2.80686e-14	2.24832e-4	0.53726
135.5	0.205	-2.24782e-14	1.84631e-4	0.53598
136	0.21	-1.79459e-14	1.51635e-4	0.53476
136.5	0.215	-1.42757e-14	1.24549e-4	0.5336
137	0.22	-1.13075e-14	1.02311e-4	0.53249
137.5	0.225	-8.91077e-15	8.40512e-5	0.53143
138	0.23	-6.97901e-15	6.90563e-5	0.53042
138.5	0.235	-5.42524e-15	5.6741e-5	0.52945
139	0.24	-4.17854e-15	4.66257e-5	0.52853
139.5	0.245	-3.18105e-15	3.83163e-5	0.52765
140	0.25	-2.3856e-15	3.149e-5	0.5268
140.5	0.255	-1.75373e-15	2.58815e-5	0.52599
141	0.26	-1.25412e-15	2.12732e-5	0.52521
141.5	0.265	-8.61261e-16	1.74865e-5	0.52447
142	0.27	-5.54403e-16	1.43746e-5	0.52375
142.5	0.275	-3.16667e-16	1.18171e-5	0.52307
143	0.28	-1.34345e-16	9.71516e-6	0.52241

t	Potential (V), Global Variable Probe 1	Current (A), Boundary Probe 1	C_M(Hg) (mol/m ³), Domain Probe 1	C_M ⁺ , Surface (mol/m ³), Boundary Probe 2
143.5	0.285	3.68694e-18	7.98746e-6	0.52177
144	0.29	1.06447e-16	6.5673e-6	0.52116
144.5	0.295	1.81235e-16	5.39987e-6	0.52058
145	0.3	2.33949e-16	4.44016e-6	0.52001
145.5	0.305	2.69347e-16	3.65115e-6	0.51947
146	0.31	2.91263e-16	3.00247e-6	0.51895
146.5	0.315	3.02771e-16	2.46912e-6	0.51844
147	0.32	3.06337e-16	2.03058e-6	0.51795
147.5	0.325	3.03927e-16	1.66999e-6	0.51749
148	0.33	2.97106e-16	1.37347e-6	0.51703
148.5	0.335	2.87111e-16	1.12963e-6	0.5166
149	0.34	2.74919e-16	9.29114e-7	0.51617
149.5	0.345	2.61291e-16	7.64209e-7	0.51577
150	0.35	2.4682e-16	6.28589e-7	0.51537

4.2.2 Evaluation 2D

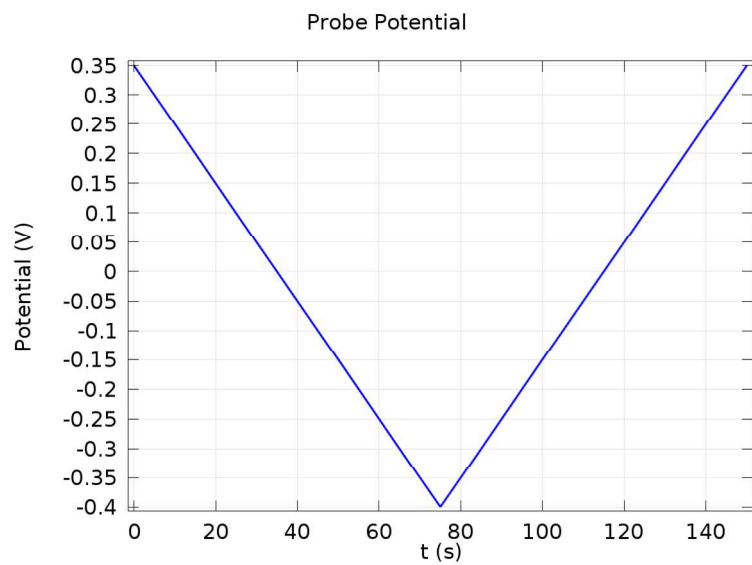
Interactive 2D values

Evaluation 2D

x	y	Value
7.60798e-8	1.37427e-4	-0.02785
1.04848e-7	1.37488e-4	0.82104
1.10242e-7	1.37492e-4	1.5684
1.05747e-7	1.37493e-4	1.92037
1.18333e-7	1.37496e-4	2.38954
1.02601e-7	1.37516e-4	3.13956
1.08894e-7	1.37493e-4	1.83595
1.09343e-7	1.37495e-4	2.28371
9.94541e-8	1.37524e-4	3.13719
1.04399e-7	1.37481e-4	-0.65686

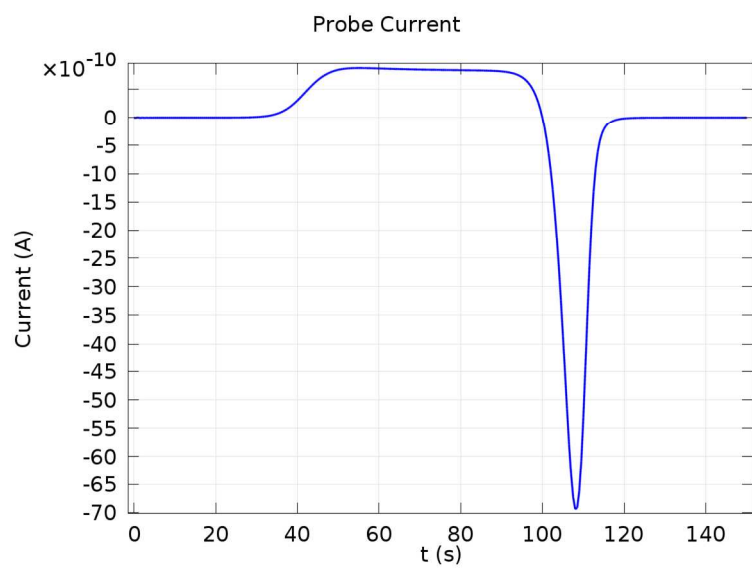
4.3 Plot Groups

4.3.1 Probe 1D Plot Group 4



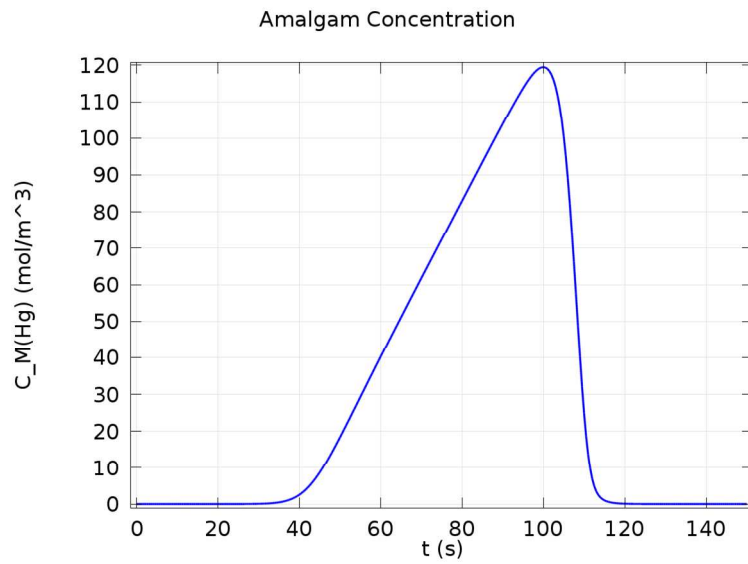
Probe Potential

4.3.2 Probe 1D Plot Group 5



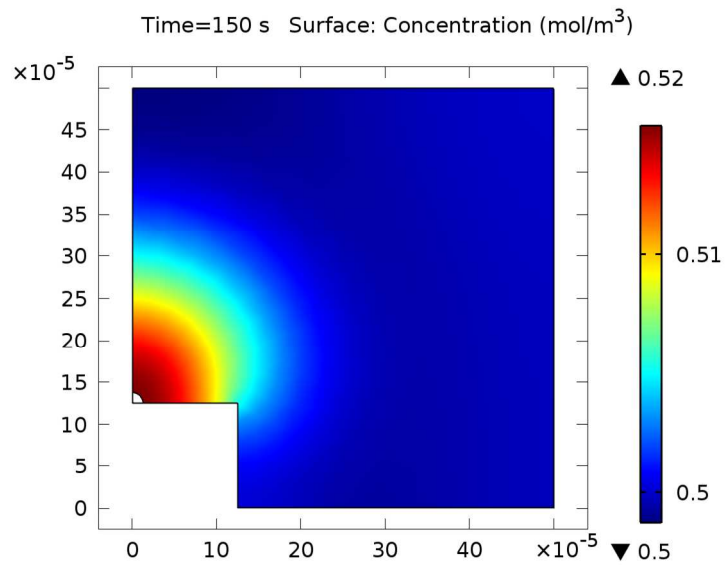
Probe Current

4.3.3 Probe 1D Plot Group 6



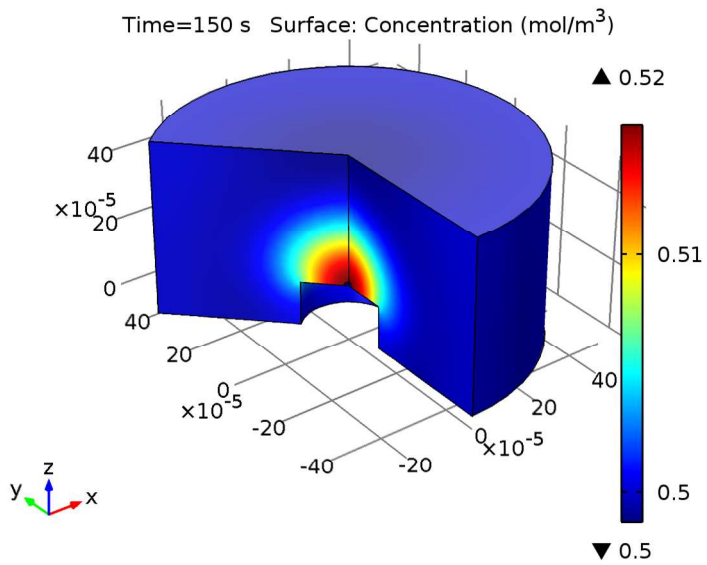
Amalgam Concentration

4.3.4 Concentration (chds)



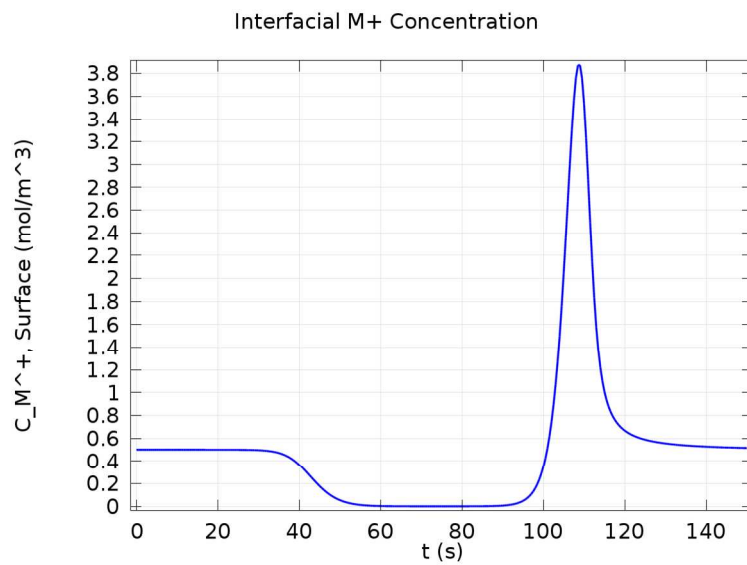
Time=150 s Surface: Concentration (mol/m³)

4.3.5 Concentration, 3D (chds)



Time=150 s Surface: Concentration (mol/m³)

4.3.6 Probe 1D Plot Group 9



Interfacial M+ Concentration