

PB

Date

Jun 22, 2015 11:25:20 AM

Contents

1. Global	3
1.1. Definitions.....	3
2. Component 1	4
2.1. Geometry 1	4
2.2. Materials.....	5
2.3. Poisson's Equation.....	6
2.4. Mesh 1	7
3. Study 1.....	8
3.1. Stationary.....	8
4. Results.....	9
4.1. Data Sets	9
4.2. Plot Groups	10

1 Global

Used products

COMSOL Multiphysics

1.1 Definitions

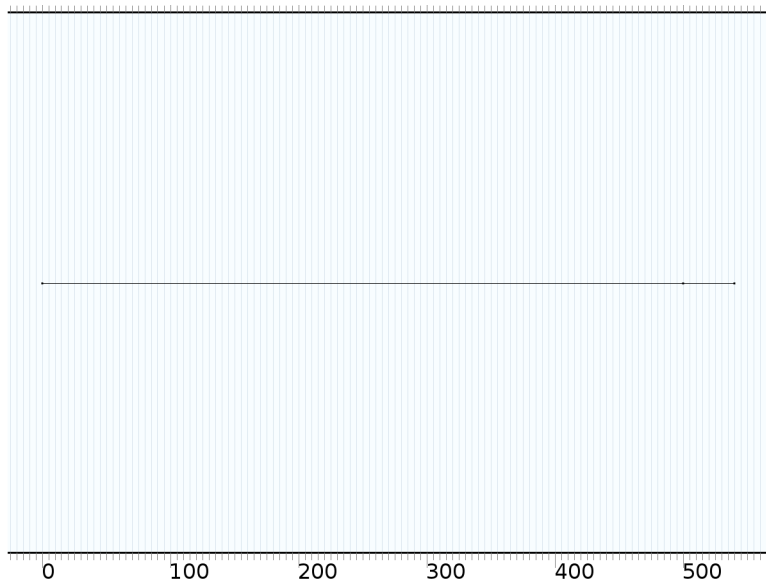
1.1.1 Parameters 1

Parameters

Name	Expression	Value	Description
eps0	8.854e-12[F/m]	8.8540E-12 F/m	
epsr	78.4	78.400	
f	96487/8.314/298[V]	38.944 1/V	
F	96487[C/mol]	96487 C/mol	
Cbulk	0.01[mmol/l]	0.010000 mol/m ³	
rhoq	F*Cbulk	964.87 C/m ³	

2 Component 1

2.1 Geometry 1



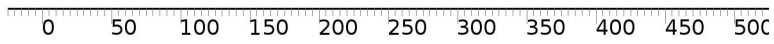
Geometry 1

Units

Length unit	nm
Angular unit	deg

2.2 Materials

2.2.1 Water

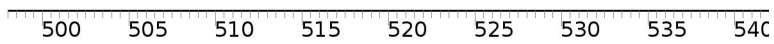


Water

Selection

Geometric entity level	Domain
Selection	Domain 1

2.2.2 SiO₂ - Silicon oxide



SiO₂ - Silicon oxide

Selection

Geometric entity level	Domain
Selection	Domain 2

2.3 Poisson's Equation

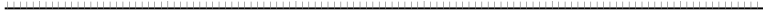


Poisson's Equation

Features

Poisson's Equation 1
Zero Flux 1
Initial Values 1
Dirichlet Boundary Condition 1
Poisson's Equation 2
Dirichlet Boundary Condition 2

2.4 Mesh 1



Mesh 1

3 Study 1

3.1 Stationary

Study settings

Property	Value
Include geometric nonlinearity	Off

Physics and variables selection

Physics interface	Discretization
Poisson's Equation (poeq)	physics

Mesh selection

Geometry	Mesh
Geometry 1 (geom1)	mesh1

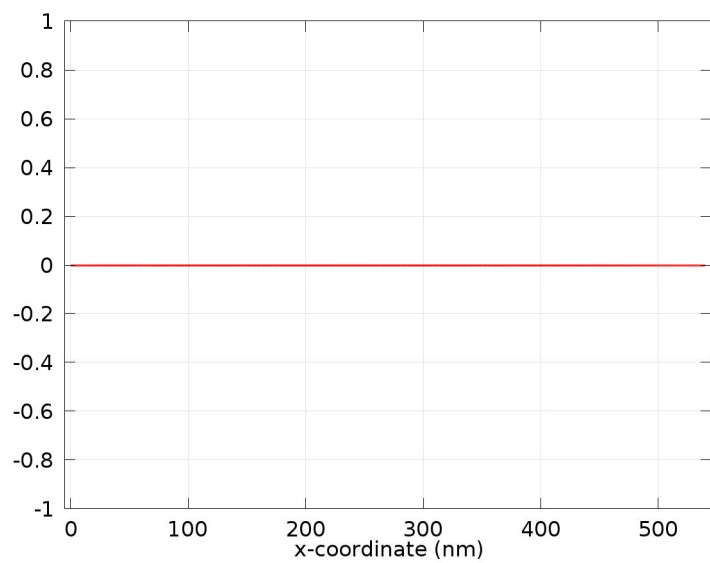
4 Results

4.1 Data Sets

4.1.1 Study 1/Solution 1

Solution

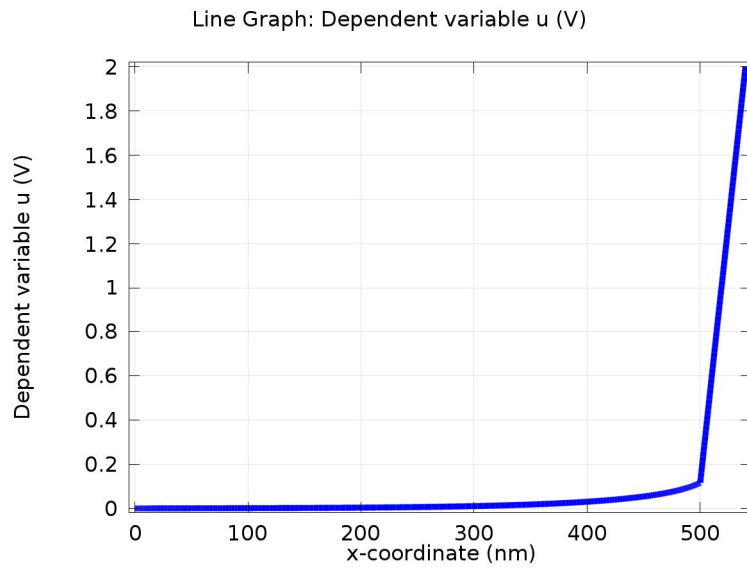
Name	Value
Solution	Solution 1
Component	Save Point Geometry 1



Data set: Study 1/Solution 1

4.2 Plot Groups

4.2.1 1D Plot Group 1



Line Graph: Dependent variable u (V)