

[New Simulation](#)[Delete](#)[Archive](#)

Shared by Me



<input type="checkbox"/>	Name	Grid Points	FlexCredit	Storage	Date Created	ID	Status	Date Completed
--------------------------	------	-------------	------------	---------	--------------	----	--------	----------------

[Click here to create new task](#)

Simulation Parameter

STUDIES

FDTD draft

Editor

CONFIGURATION

Simulation Domain

Run Time

Grid Specification

Boundary and Symmetry

Shutoff Condition

Show More

STRUCTURES

SOURCES

MONITORS

SCRIPT OBJECTS

Add Structure Help

Primitive Geometries



Box



Sphere



Cylinder



PolySlab



GeometryGroup

Import Geometries from



2D Layout

OK

Task Details

Run

1 Error

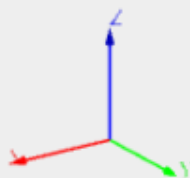
Detail

Visibility

Axes

Ruler

Simulation Domain



Simulation Parameter

STUDIES

FDTD draft

Editor

CONFIGURATION

Simulation Domain

Run Time

Grid Specification

Boundary and Symmetry

Shutoff Condition

Show More

STRUCTURES

waveguide

SOURCES

MONITORS

SCRIPT OBJECTS

Edit Structure Help

name

waveguide

* geometry

Box

☒ center + size ☐ bounds

center

X0μm

Y0μm

Z0μm

* size

Xμm

Yμm

Zμm

* medium

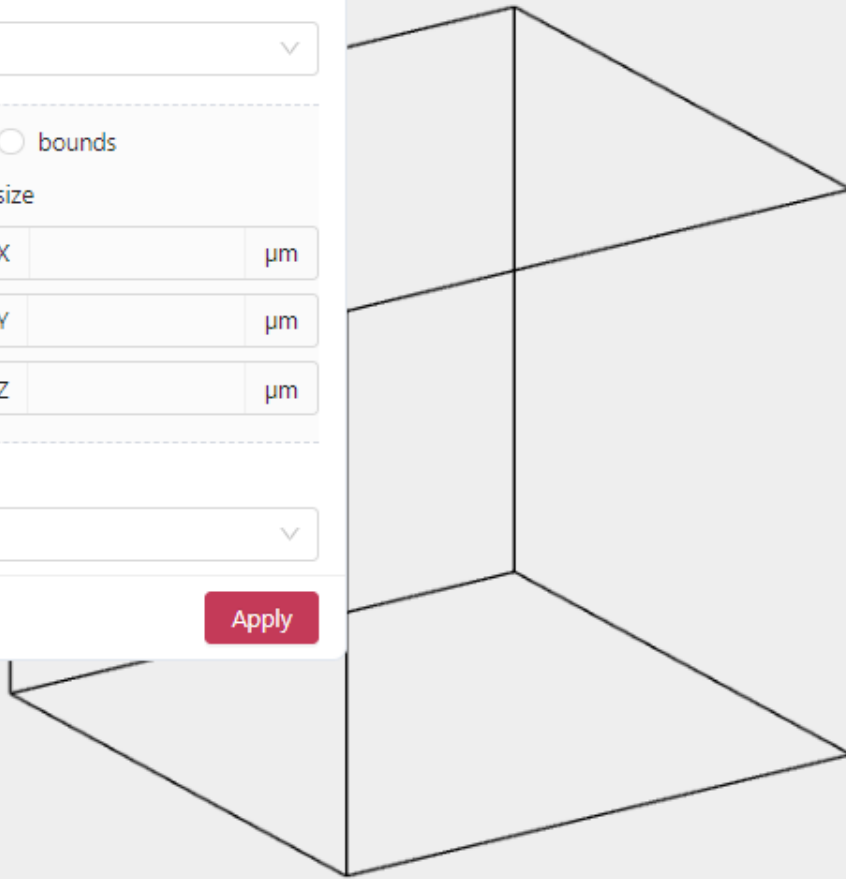
Select

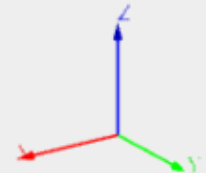
Apply


Task Details

Run

1 Error Detail








Visibility

Axes

Simulation Domain



Simulation Parameter

STUDIES

FDTD draft

Editor

CONFIGURATION

Simulation Domain

Run Time

Grid Specification

Boundary and Symmetry

Shutoff Condition

Show More

STRUCTURES

waveguide

SOURCES

MONITORS

SCRIPT OBJECTS

Edit Structure Help

name

waveguide

* geometry

Box

☒ center + size ☐ bounds

center

X0μm

Y0μm

Z0μm

* size

Xμm

Yμm

Zμm

* medium

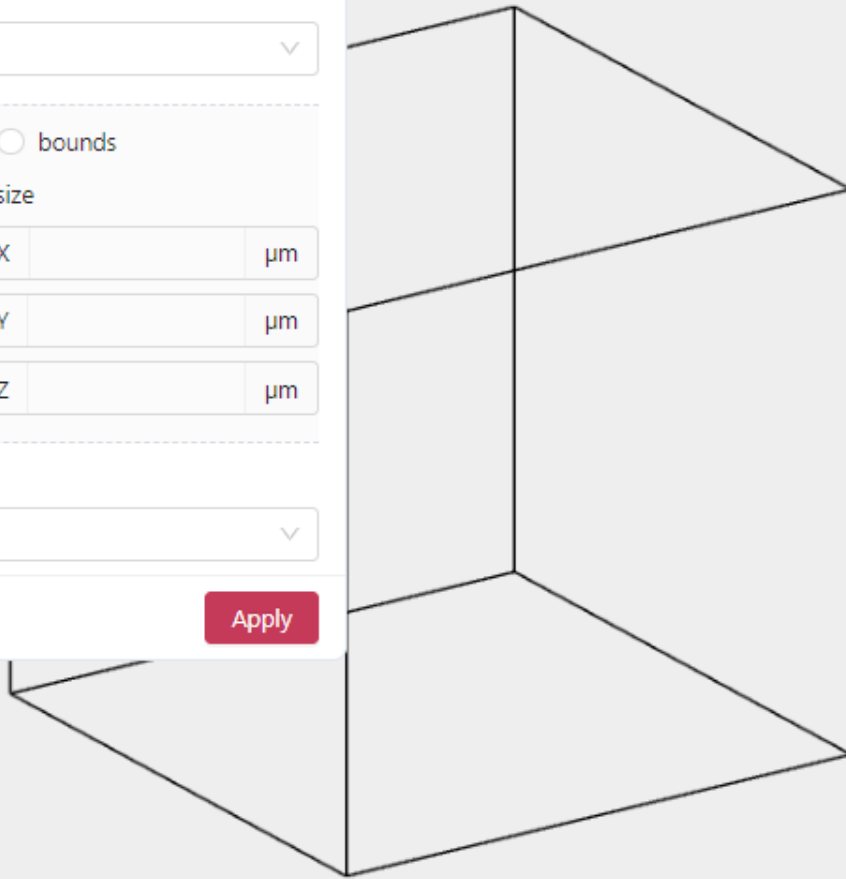
Select

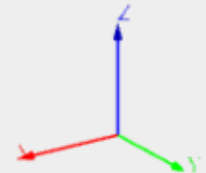
Apply


Task Details

Run

1 Error Detail








Visibility

Axes

Simulation Domain



Simulation Parameter

STUDIES

FDTD draft

Editor

CONFIGURATION

Simulation Domain

Run Time

Grid Specification

Boundary and Symmetry

Shutoff Condition

Show More

STRUCTURES

waveguide

SOURCES

MONITORS

SCRIPT OBJECTS

Edit Structure Help

name

waveguide

* geometry

Box

☒ center + size ☐ bounds

center

X0μm

Y0μm

Z0μm

* size

XInfinityfxμm

Y0.5μm

Z0.22μm

* medium

Select

Apply

Task Details

Run

1 Error Detail

+

-

↺

?

Visibility

Axes

Simulation Domain

Simulation Parameter

STUDIES

FTD draft

Editor

CONFIGURATION

Simulation Domain

Run Time

Grid Specification

Boundary and Symmetry

Shutoff Condition

Show More

STRUCTURES

waveguide

SOURCES

MONITORS

SCRIPT OBJECTS

Edit Structure Help

name

waveguide

* geometry

Box

☒ center + size ☐ bounds

center

X0μm

Y0μm

Z0μm

* size

XInfinityμm

Y0.5μm

Z0.22μm

* medium

Select

Load from Library

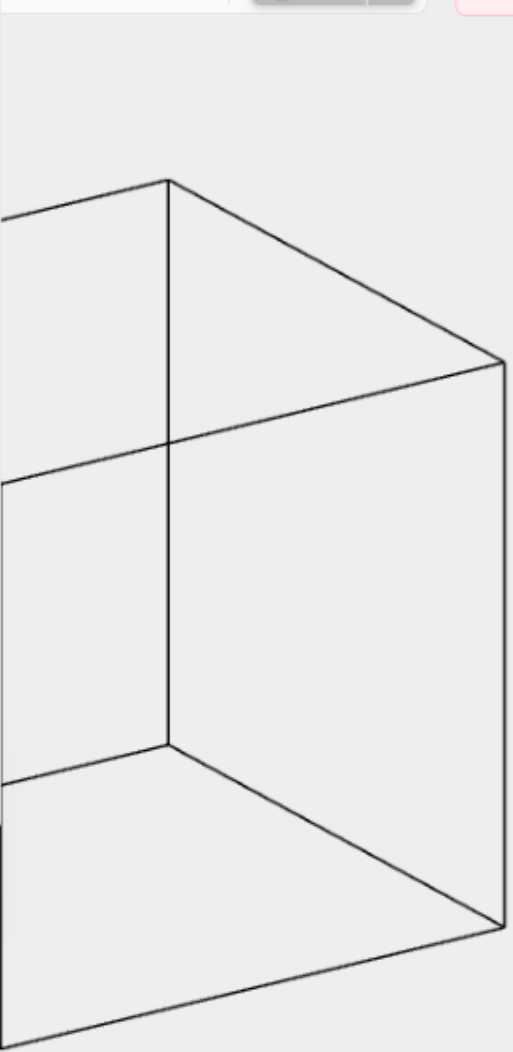
Create New Medium

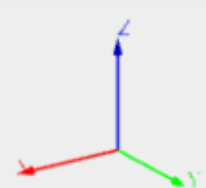
Vacuum


Task Details

Run

1 Error Detail






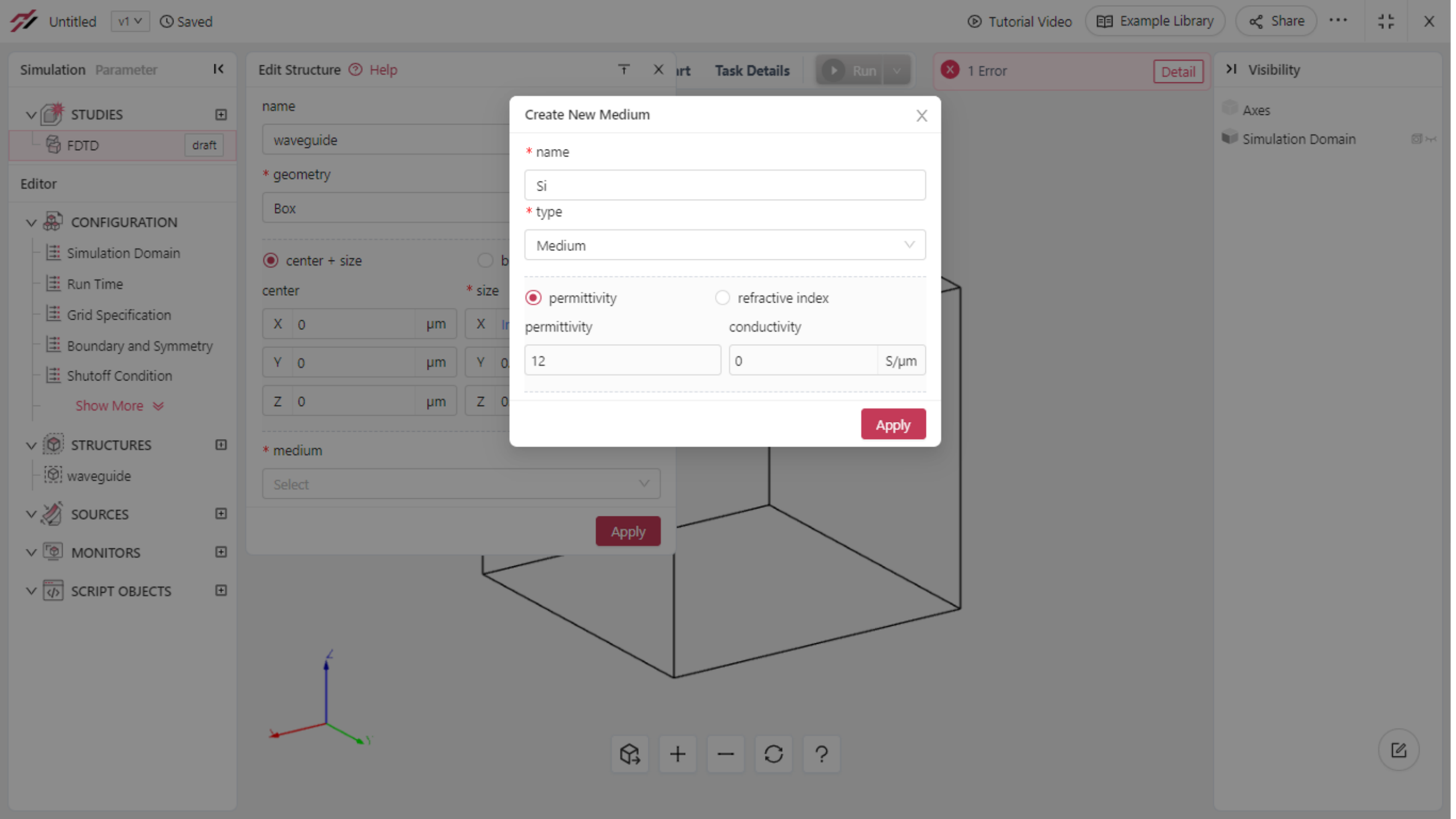
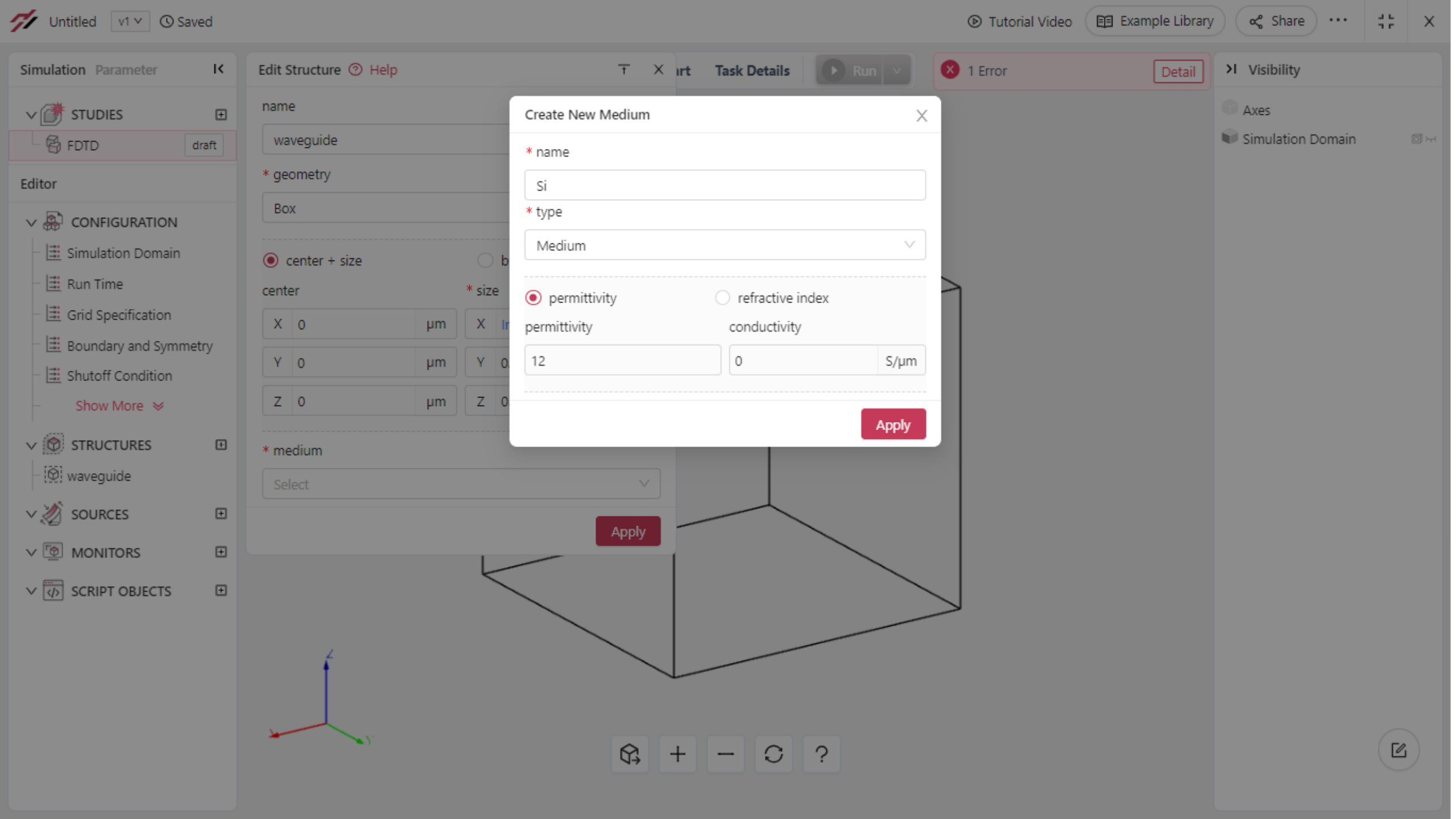


Visibility

Axes

Simulation Domain





Simulation Parameter <

STUDIES

FDTD

draft

Editor

CONFIGURATION

Simulation Domain

Run Time

Grid Specification

Boundary and Symmetry

Shutoff Condition

Show More

STRUCTURES

waveguide

SOURCES

MONITORS

SCRIPT OBJECTS

Simulation Domain Help

center + size

bounds

center

* size

X	0	μm	X	5	μm
Y	0	μm	Y	2.5	μm
Z	0	μm	Z	2	μm

* background medium

Vacuum

type: Medium

permittivity: 1

conductivity: 0 S/ μm

Apply

1 Error

Detail

Task Details

Run

3D visualization of a waveguide structure within a simulation domain.

+

-

↺

?

Visibility

Axes

Simulation Domain

Structures(1/1)

waveguide

✎

Simulation Parameter

STUDIES

FDTD draft

Editor

CONFIGURATION

Simulation Domain

Run Time

Grid Specification

Boundary and Symmetry

Shutoff Condition

Show More

STRUCTURES

waveguide

SOURCES

MONITORS

SCRIPT OBJECTS

Grid Specification Help

☒ Use the same grid spec for all directions

type

AutoGrid

min_steps_per_wvl

15

Advanced

wavelength

1.5 μm

override_structures

No Data

Delete All

Add Override Structure

Apply

Task Details

Run

1 Warning Detail

Visibility

Axes

Simulation Domain

Structures (1/1)

waveguide

SimulationParameter<<

STUDIES

FTDIdraft

Editor

CONFIGURATION

Simulation DomainRun TimeGrid SpecificationBoundary and SymmetryShutoff ConditionShow More

STRUCTURES

waveguide

SOURCES

mode_source

MONITORSSCRIPT OBJECTS

Edit SourceHelp

name

mode_source

* type

ModeSource

☒ center + size☐ bounds

center

X-2.4μmY0μmZ0μm

* size

X0μmY1.5μmZ1μm

* direction

+

num_freqs

1

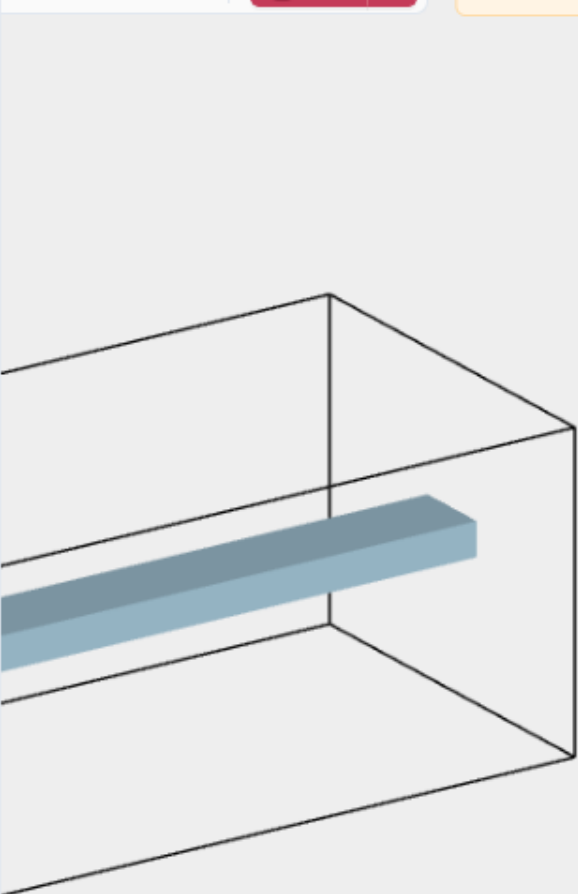
* source_time

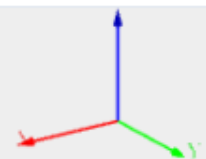
Plot>


Apply

Task DetailsRun

1 WarningDetail








Visibility

Axes

Simulation Domain

Structures(1/1)

waveguide



Simulation Parameter

STUDIES

FDTD draft

Editor

CONFIGURATION

- Simulation Domain
- Run Time
- Grid Specification
- Boundary and Symmetry
- Shutoff Condition
- Show More

STRUCTURES

- waveguide

SOURCES

- mode_source

MONITORS

SCRIPT OBJECTS

Edit Source Help

wavelength frequency

λ_{\min} 1.5 μm

λ_{\max} 1.6 μm

Customize source bandwidth 0.5

freq0: 1.93414e+14 Hz

fwidth: 6.24567e+12 Hz

Advanced

mode_index

0

mode_spec

Add ModeSolver Beta

num_modes

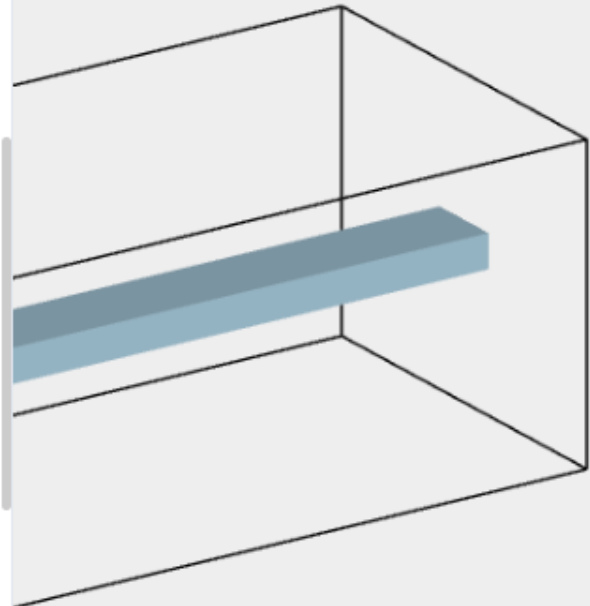
1

Apply

Task Details

Run

1 Warning Detail



3D visualization of a waveguide structure within a simulation domain. The waveguide is a blue rectangular block centered within a larger, light gray rectangular prism representing the simulation domain. A 3D coordinate system is visible at the bottom left of the visualization area.

Visibility

- Axes
- Simulation Domain
- Structures (1/1)
 - waveguide

Simulation Parameter ⏪

STUDIES

FDTD draft

Editor

CONFIGURATION

Simulation Domain

Run Time

Grid Specification

Boundary and Symmetry

Shutoff Condition

Show More

STRUCTURES

waveguide

SOURCES

mode_source

MONITORS

SCRIPT OBJECTS

Edit Source Help

fwidth: 6.24567e+12 Hz

Advanced

mode_index

0

mode_spec

+ Add ModeSolver

Beta

num_modes

1

target_neff

3.47

filter_pol

None

Apply

Task Details

Run

1 Warning

Detail

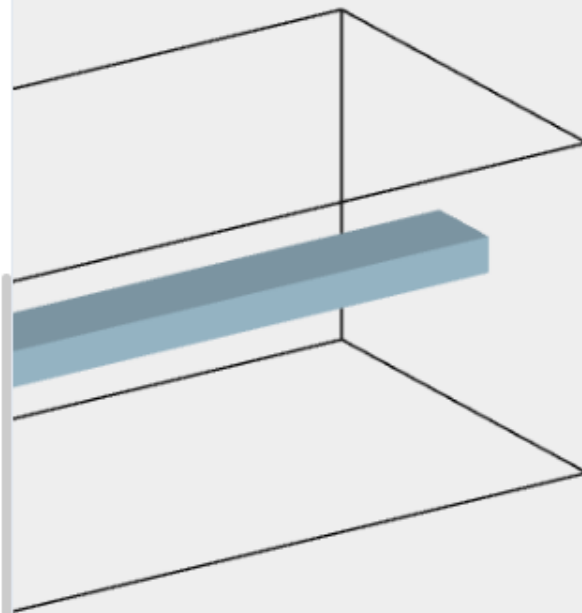
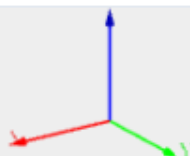
Visibility

Axes

Simulation Domain

Structures(1/1)

waveguide



Simulation Parameter

STUDIES

FDTD draft

Editor

CONFIGURATION

Simulation Domain

Run Time

Grid Specification

Boundary and Symmetry

Shutoff Condition

Show More

STRUCTURES

waveguide

SOURCES

mode_source

MONITORS

mode_monitor

SCRIPT OBJECTS

Edit Monitor Help

* name

mode_monitor

* type

ModeMonitor

center + size

bounds

center

X2.4μm

Y0μm

Z0μm

* size

X0μm

Y1.5μm

Z1μm

wavelengths

frequencies

unit: μm

Enter range

Variable

Custom

Set the range from source

mode_source

min: 1.5max: 1.6

Apply

Task Details

Run

Validation pass

+

-

↺

?

Visibility

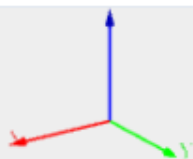
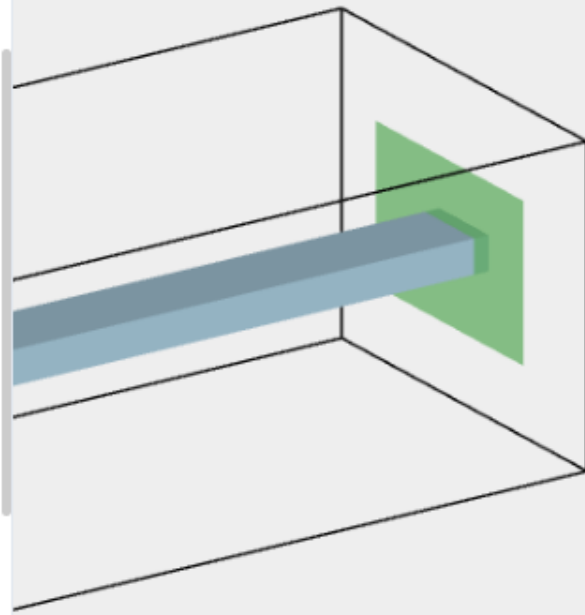
Axes

Simulation Domain

Sources(1/1)

Structures(1/1)

waveguide



Simulation Parameter

STUDIES

FDTD draft

Editor

CONFIGURATION

Simulation Domain

Run Time

Grid Specification

Boundary and Symmetry

Shutoff Condition

Show More

STRUCTURES

waveguide

SOURCES

mode_source

MONITORS

mode_monitor

field_xy

SCRIPT OBJECTS

Edit Monitor Help

center + size bounds

center * size

X 0 μm X Infinity μm

Y 0 μm Y Infinity μm

Z 0 μm Z 0 μm

For 1D/2D monitors, set the size of the corresponding dimensions to 0.

fields

Ex x Ey x Ez x Hx x Hy x Hz x

* wavelengths frequencies unit: μm

Enter range Variable Custom

1.55

number of points: 1

1

Apply

Task Details

Run

Validation pass

+ - ↺ ?

Visibility

Axes

Simulation Domain

Sources(1/1)

Monitors(1/1)

Structures(1/1)

waveguide

Simulation Parameter <

STUDIES
FDTD draft

Editor

CONFIGURATION
Simulation Domain
Run Time
Grid Specification
Boundary and Symmetry
Shutoff Condition
Show More

STRUCTURES
waveguide

SOURCES
mode_source

MONITORS
mode_monitor
field_xy

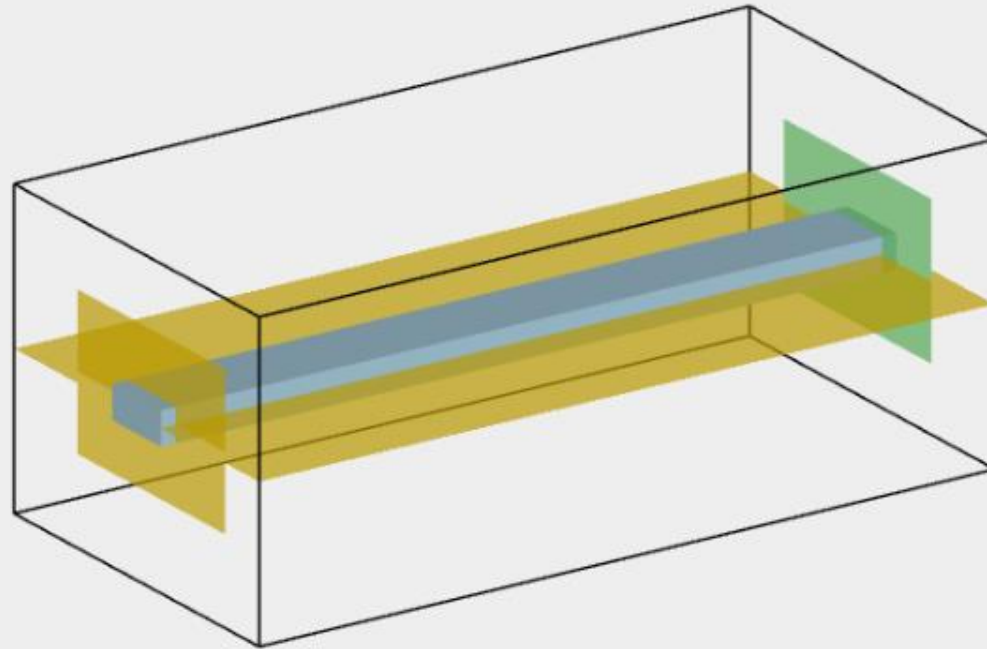
SCRIPT OBJECTS

3D Chart 2D Chart Task Details Run

Validation pass

Visibility

Axes
Simulation Domain
Sources(1/1)
Monitors(2/2)
Structures(1/1)
waveguide



Silicon Waveguide

v1

Saved

Tutorial Video

Example Library

Share

SimulationParameter<

STUDIES

FDTD

success

Editor

CONFIGURATION

Simulation Domain

Run Time

Grid Specification

Boundary and Symmetry

Shutoff Condition

Show More

STRUCTURES

waveguide

SOURCES

mode_source

MONITORS

mode_monitor

field_xy

SCRIPT OBJECTS

3D Chart2D ChartPost-Run ResultTask DetailsEdit

Task finished successfully

Task Name: Silicon WaveguideTask Id: fdve-b119dfef-6ce5-4693-bb4d-7887519cc0a3v1

Queued

Preprocess

Running Solver

Postprocess

Field decay: 4.53e-06

Early Shutoff

Steps: 5247/18741 (28%)

Solver Time: 7 seconds

Go To Post-Run Result

Download Data (719 kB)

Go To Post-Run Result

Visibility

Axes

Simulation Domain

Sources(1/1)

Monitors(2/2)

Structures(1/1)

waveguide

+

-

?

Simulation Parameter <

STUDIES

FDTD success

Editor

CONFIGURATION

Simulation Domain

Run Time

Grid Specification

Boundary and Symmetry

Shutoff Condition

Show More

STRUCTURES

waveguide

SOURCES

mode_source

MONITORS

mode_monitor

field_xy

SCRIPT OBJECTS

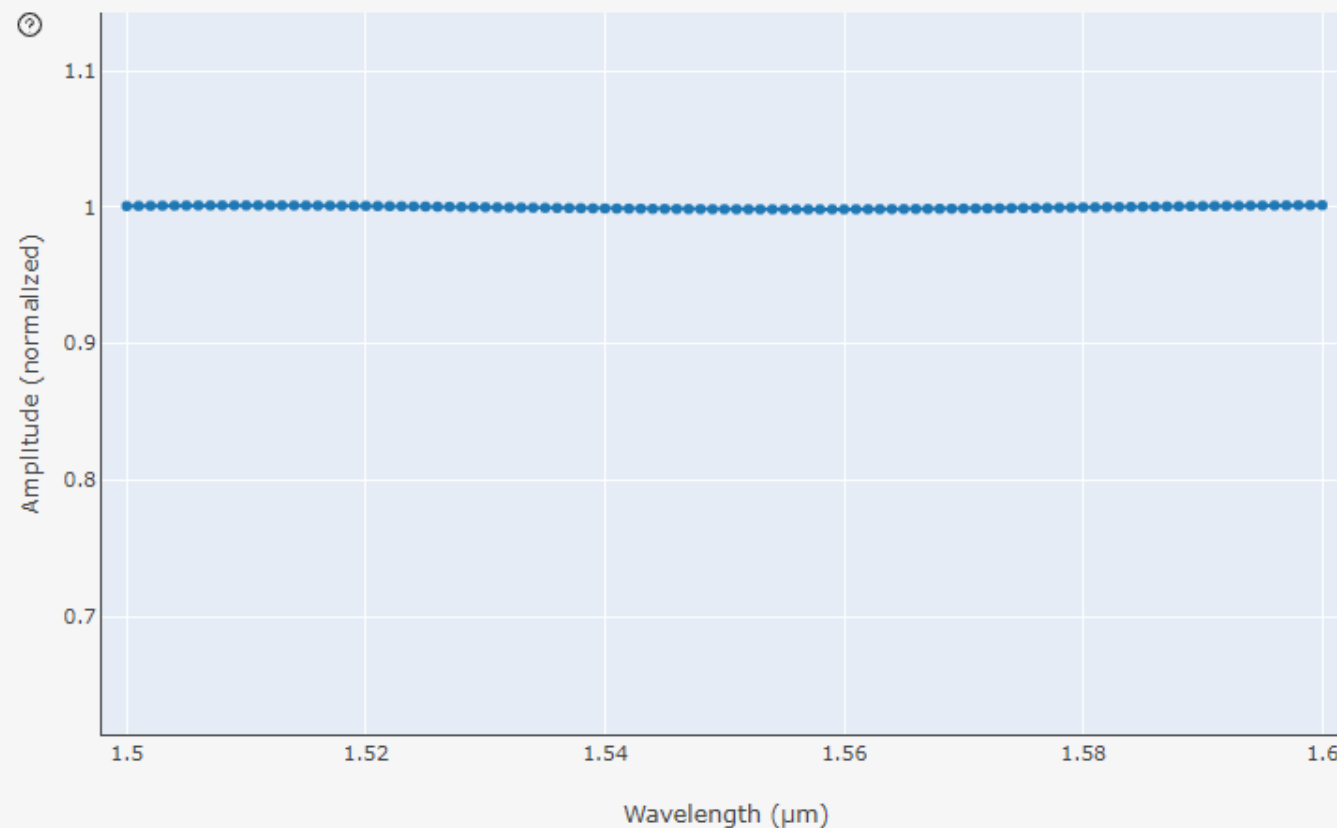
3D Chart

2D Chart

Post-Run Result Beta

Task Details

Edit

☒ Wavelength ☐ Frequency

Download Data

> Result Beta Advanced

Monitor Name

mode_monitor

Type: ModeMonitor

Select Data

☒ Mode amplitude☐ Effective index

Direction

+ (forward)

Value to Plot

Intensity (abs^2)

Simulation Parameter <

STUDIES

FDTD success

Editor

CONFIGURATION

Simulation Domain

Run Time

Grid Specification

Boundary and Symmetry

Shutoff Condition

Show More

STRUCTURES

waveguide

SOURCES

mode_source

MONITORS

mode_monitor

field_xy

SCRIPT OBJECTS

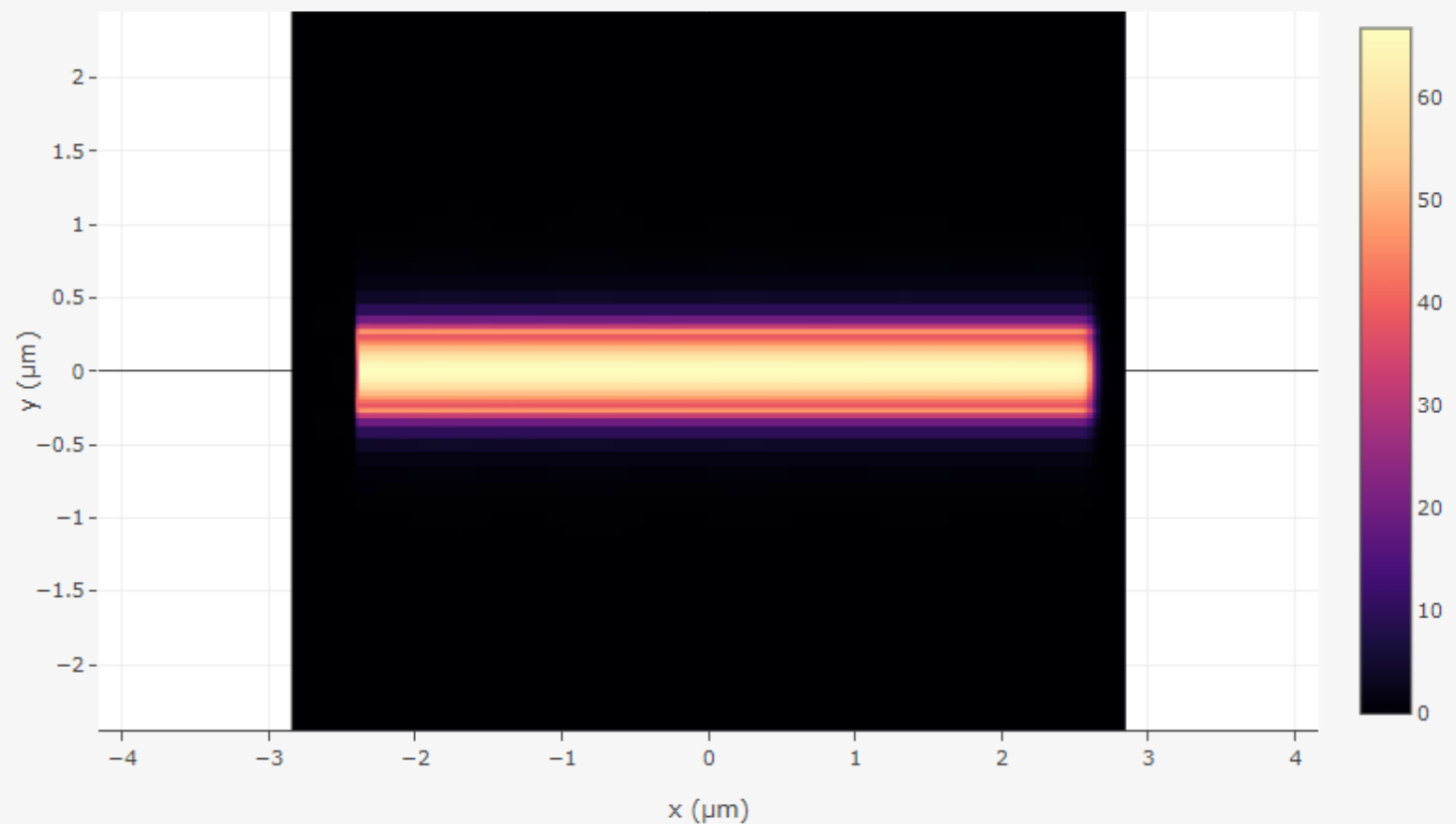
3D Chart

2D Chart

Post-Run Result

Task Details

Edit



Result

Monitor Name

field_xy

Type: FieldMonitor

Field Component

E

Value to Plot

Magnitude (abs)

Z Position (μm)

0

-

Frequency Wavelength THz

193.41449373420255

-

Use equal axis aspect ratio

Overlay with structure

-



Simulation Parameter <

STUDIES

FDTD success

Editor

CONFIGURATION

Simulation Domain

Run Time

Grid Specification

Boundary and Symmetry

Shutoff Condition

Show More

STRUCTURES

waveguide

SOURCES

mode_source

MONITORS

mode_monitor

field_xy

SCRIPT OBJECTS

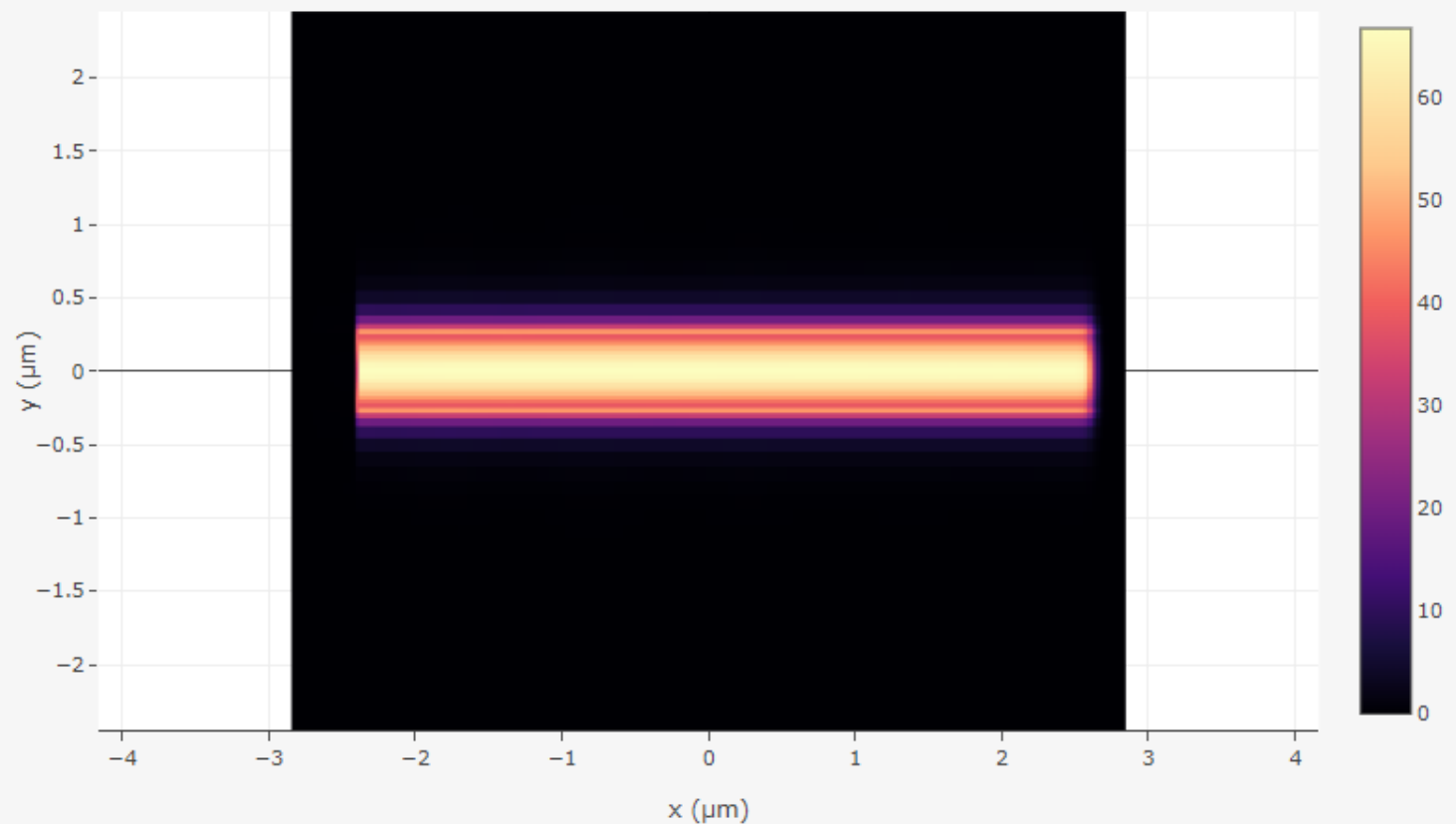
3D Chart

2D Chart

Post-Run Result

Task Details

Edit



> Result

Monitor Name

field_xy

Type: FieldMonitor

Field Component

E

Value to Plot

Magnitude (abs)

Z Position (μm)

0

-

Frequency Wavelength THz

193.41449373420255

-

☒ Use equal axis aspect ratio☒ Overlay with structure

-

