Q: What boundary condition can be set at the cutting plane of a symmetric model?
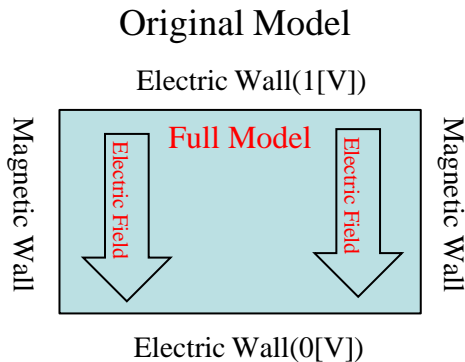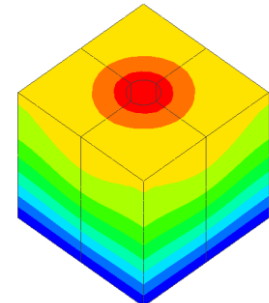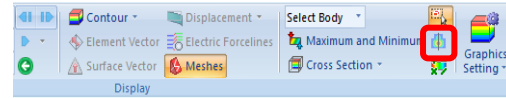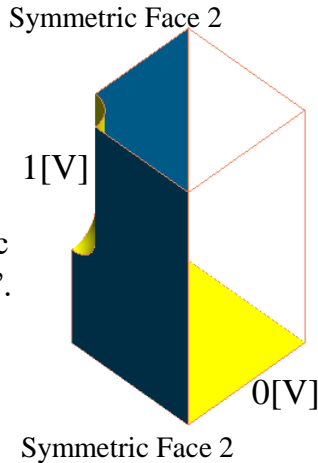
A: If the model is symmetric, the reflective boundary condition can be set to the symmetric face to change the model to the half or quarter model for less computation load. In electric analysis, the symmetric face is treated as a magnetic wall in computation.

Original Model

Electric Wall(1[V])

Magnetic Wall — Full Model — Magnetic Wall

Electric Field   Electric Field

Electric Wall(0[V])

Half Model

Electric Wall(1[V])

Plane of symmetry — Half Model — Magnetic Wall
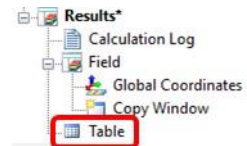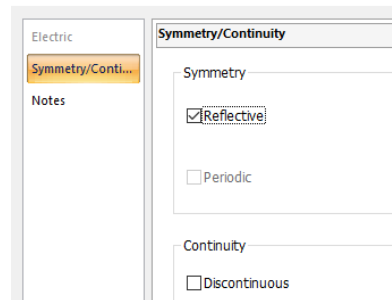
Electric Field

Electric Wall(0[V])
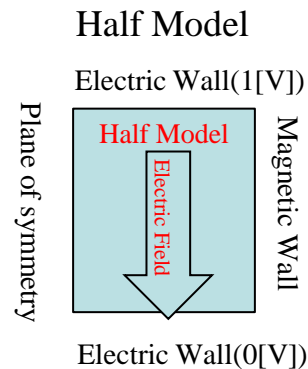
Additional Information

1. This example uses a quarter model for computation. Set individual reflective boundary conditions to the cutting planes. The respective boundary condition names are "Symmetric Face 1" and "Symmetric Face 2".

2. When [Full Model] is selected, the result for the entire model will be generated based on the result of the partial model created using symmetry.

3. The resulting capacitance becomes one-fourth for a quarter model and one-half for a half mode. The capacitance must be multiplied by 4 for the quarter model and 2 for the half model to estimate the total capacitance.

Symmetric Face 2

1[V]

0[V]

Symmetric Face 2

Edit Boundary Condition [V0]

Electric	Symmetry/Continuity
Symmetry/Conti...	Symmetry
Notes	☑Reflective
	☐Periodic
	Continuity
	☐Discontinuous

Results*
  Calculation Log
  Field
    Global Coordinates
    Copy Window
  Table

Table

| Voltage [V] | Capacitance [F] | FEM Info |

	Value
Electrode 1	Electrode1
Electrode 2	Electrode2
C1-2	1.624e-13