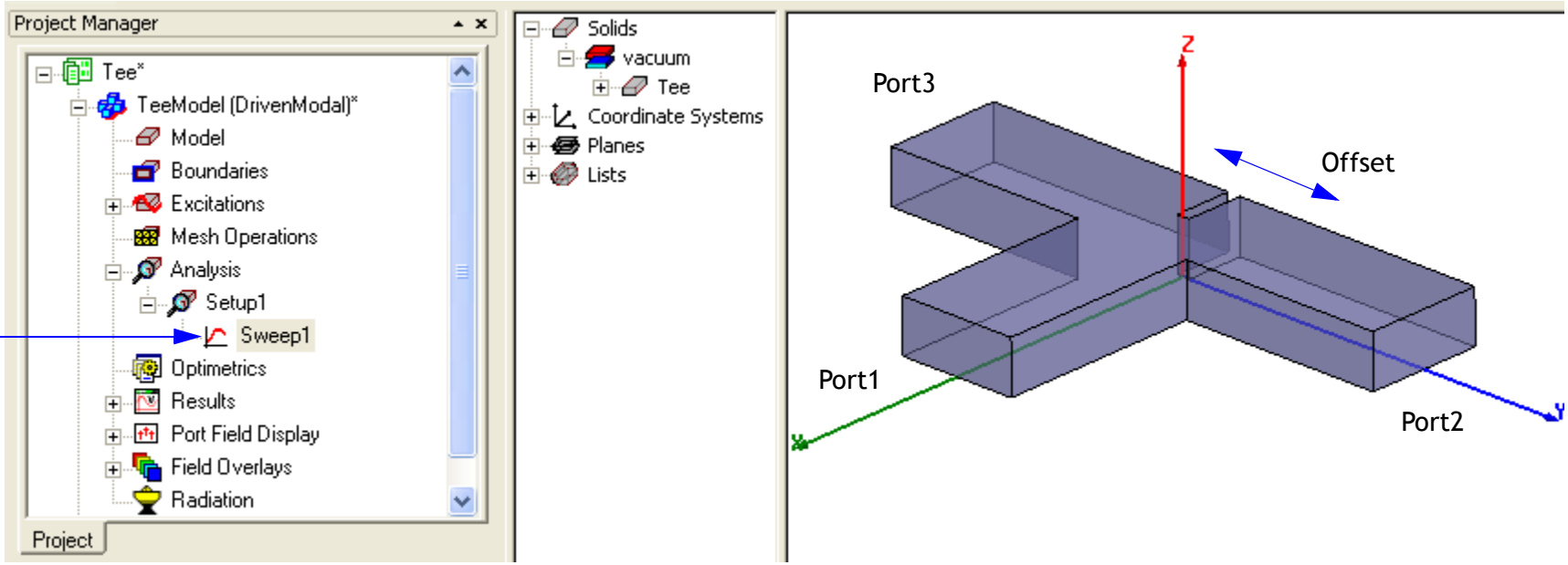
Tee

Description - Waveguide Tee with a stub. The T-Junction is a simple power divider that might be used in a feed network.The location of the stub determines how power input on Port1 splits between Ports 2 and 3. The arms are standard x-band waveguide and the location of the stub is controlled by a design variable called “offset.”

To solve, right-click on Sweep1, and then click **Analyze**



Model - a single vacuum filled solid with ports assigned to the three faces shown. The default boundary for the other outer faces is PEC.

Setup - Adapt at 10 GHz with an interpolating frequency sweep from 8 GHz to 10 GHz.

Design Variable - to change the variable “offset” go to **HFSS>Design Properties**

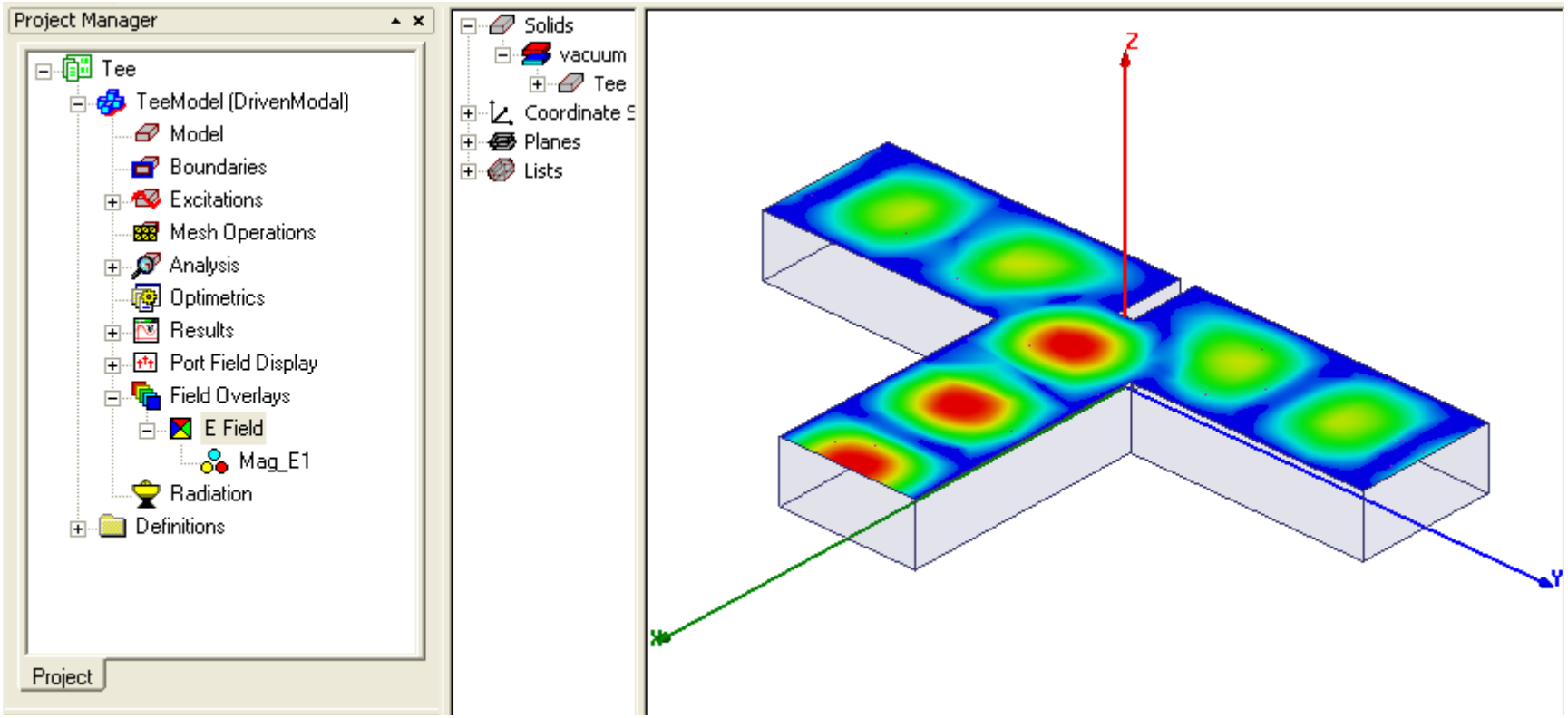
Note To view a port or boundary, select the desired item in the Project Tree. It is then highlighted in the Model window and the properties will be displayed in the Properties window. Selecting an object in the History tree will also display its properties.

Tee Post Processing

After solving, you can view solution data by right-clicking on Setup1 and selecting **Profile** to display the **Solution** dialog. You also view the **Solution** tabs for **Convergence**, **Matrix Data**, and **Mesh Statistics**.

To view a plot of S parameter data, look in the Project Tree under Results, and double click on XY Plot1.

To view the shade plot of the E field, shown below, double click on Mag_E1 in the Field Overlays. To see the phase animation of this field plot, right click on Mag_E1, and select **Animation**, then click OK in the dialog.



After you view the data for this model, you may want to change the variable “offset” and re-solve so you can see the how the stub location affects the response. In addition, to view the source fields, in the **Project Tree**, click on **Port Field Display>Port1>Mode 1**. You can right click on this and select Zoom to Region, where you will see a vector field plot of the TE_{10} mode on Port1.