Analyst_Field_Annotations

Where To Find This Example

Select **Help > Open Examples...** from the menus and type either the example name listed above or one of the keywords at the bottom of this page.

You can also open the project directly from this page using this button. Make sure to select the **Help > Enable Guided Help** from the menus before clicking this button.

Open Install Example

Design Notes

Field Annotation

This project demonstrates various annotations available for plotting the 3D electromagnetic fields computed by Analyst.

Overview

Analyst has a solver option for enabling the recording of E-fields, H-fields and surface current density at the mesh refinement frequency or all solution frequencies. Once the fields are output, a number of "EM3D" annotations can be invoked to examine field quantities in different ways. This is helpful in understanding the physics and working principle of the structure being simulated. The field plots can also be used for troubleshooting errors in setting up the project.

Enabling the Field Output

By default, Analyst does not record the field quantities obtained by its solution process. In order to examine the EM fields and surface current, the user should change the solver option "**Field Output Frequency**" to either "**AMR Frequencies Only**" or "**All Frequencies**" before starting the simulation.

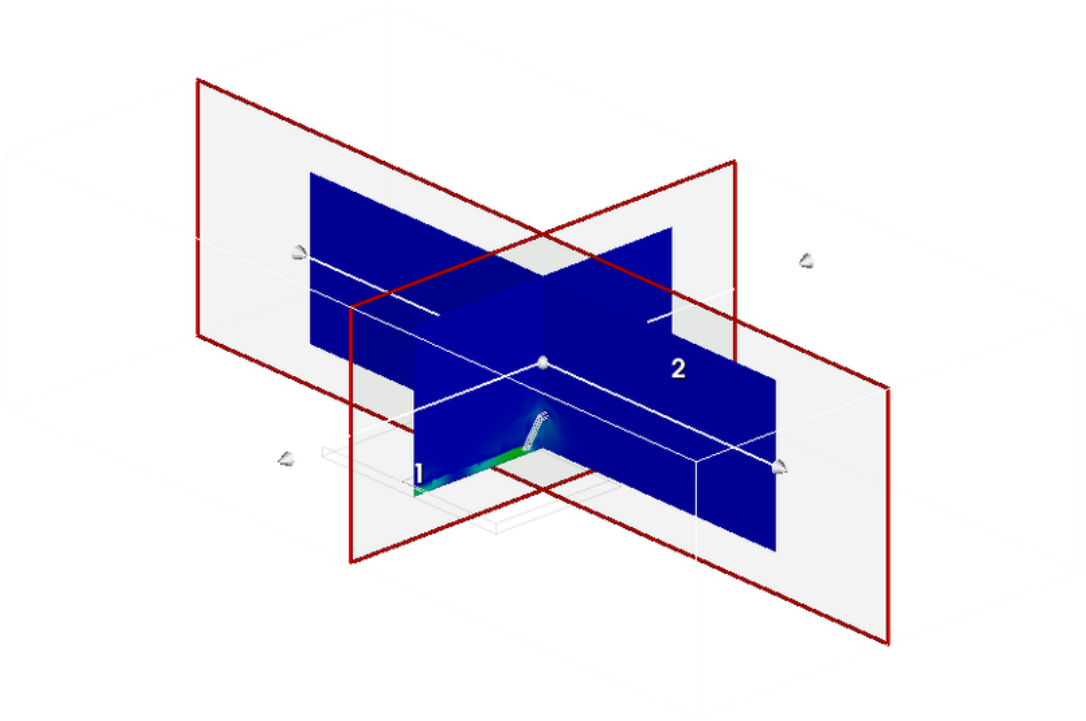
Examining Field Annotation Plots

EM field annotation can be added to 3D view by right click on the EM structure and select "**Add Annotation**". In the dialog window that pops up, click on "EM3D" under the "**Measurement Type**", then choose the EM_PORT_FIELD or any of the annotations starting with EM_FIELD_. The details of these annotations can be found in the MWO documentation.

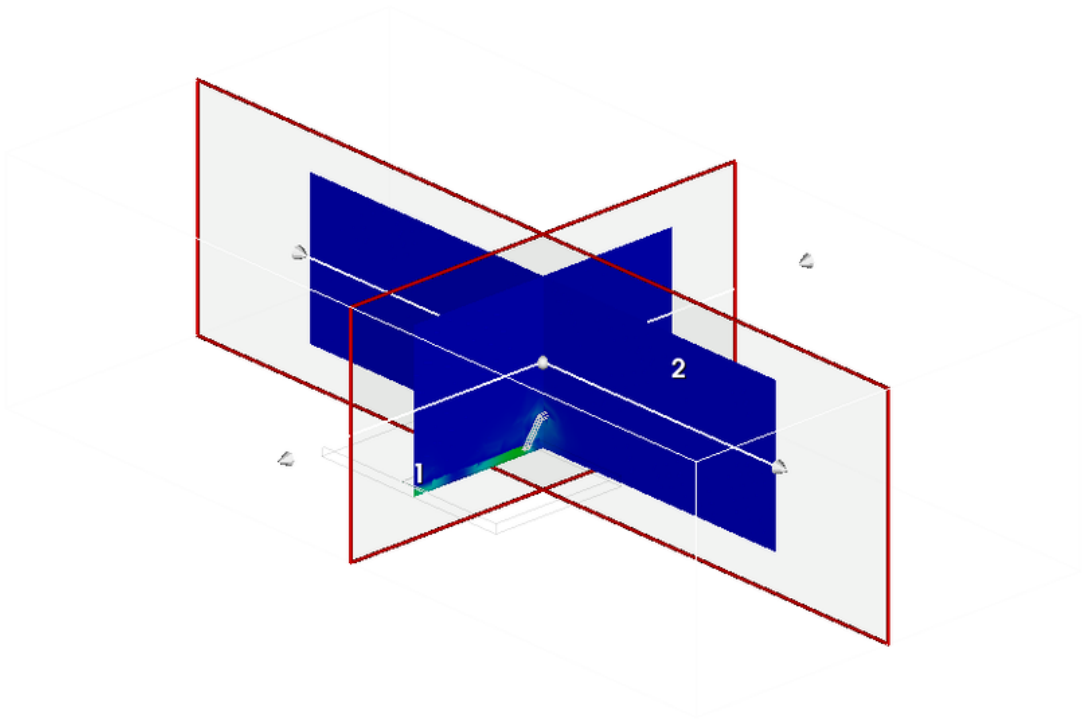
All of the 3D EM field measurements have been used in this example, as can be seen from the sub-tree items under the Bond_Wire EM structure. Double click on any of these items would bring up a dialog window showing the details of the measurement. It should be noted that the "**View Number**" varies for different tree items. This means that the corresponding field annotation would show up in a different 3D view window. Right clicking the Bond_Wire EM structure and choosing "View EM 3D Layout" would bring up view #1. With view #1 active, choosing the menu item "Window > New Window" would bring up view #2, #3...

The cut-plane is by default perpendicular to the x-axis. Users can drag on the handle to change its orientation. Pressing "x", "y" or "z" on the keyboard is the shortcut to changing the cut plane to be perpendicular to the x, y or z axis.

EM Structure 3D - Bond_Wire



EM Structure 3D - Bond_Wire



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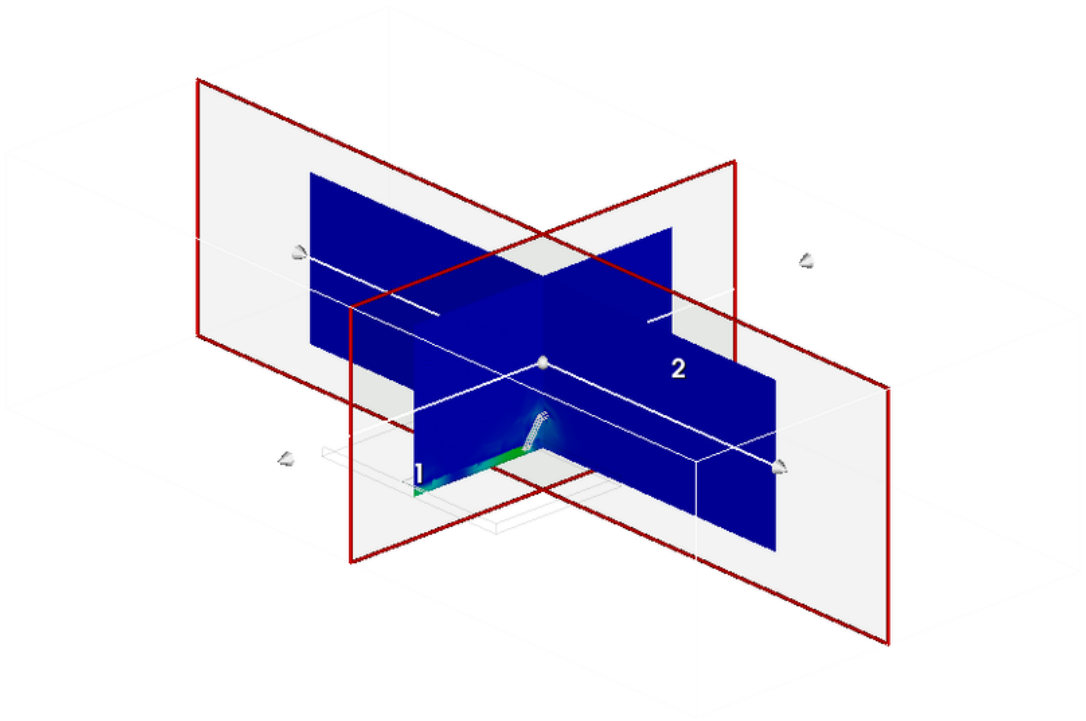

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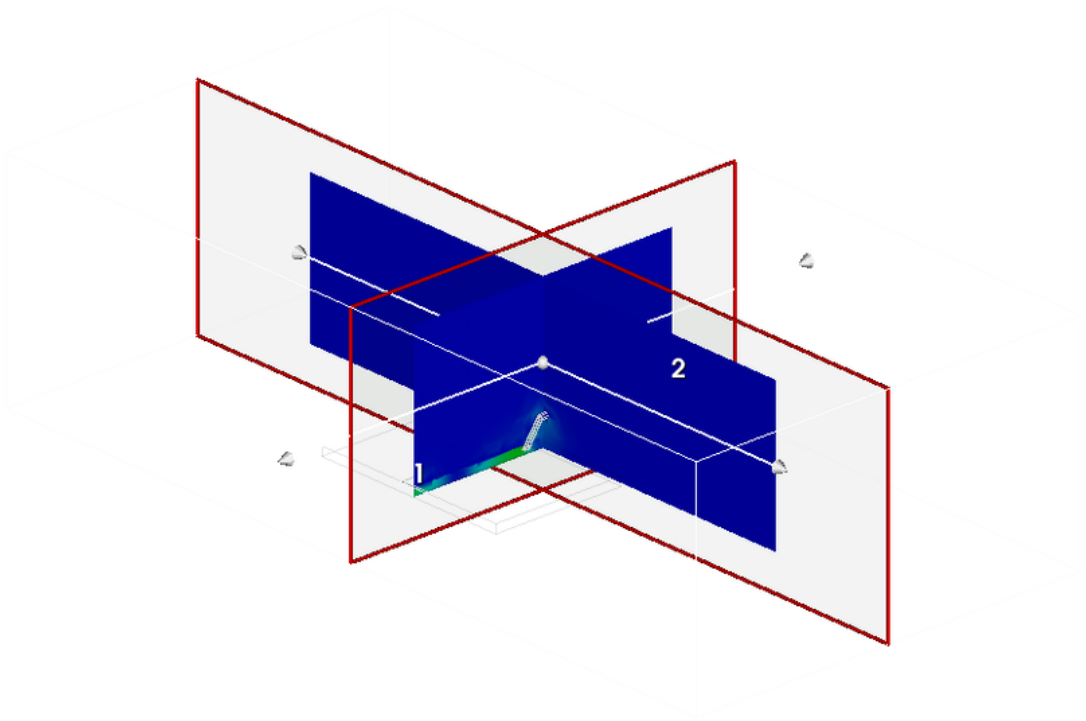

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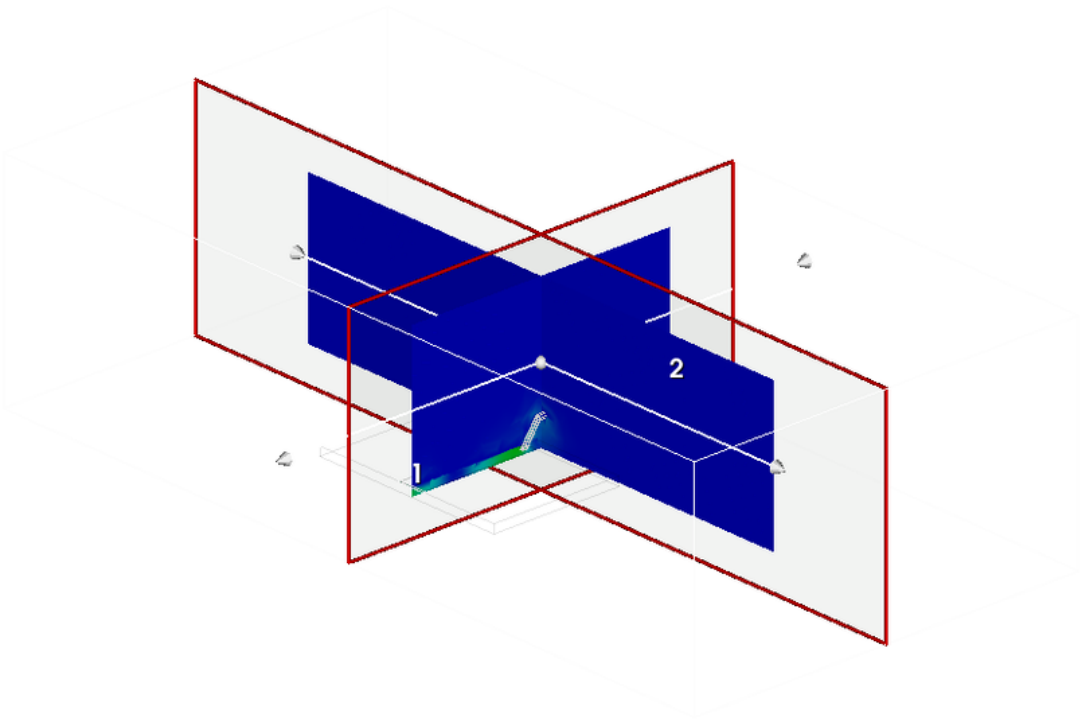
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