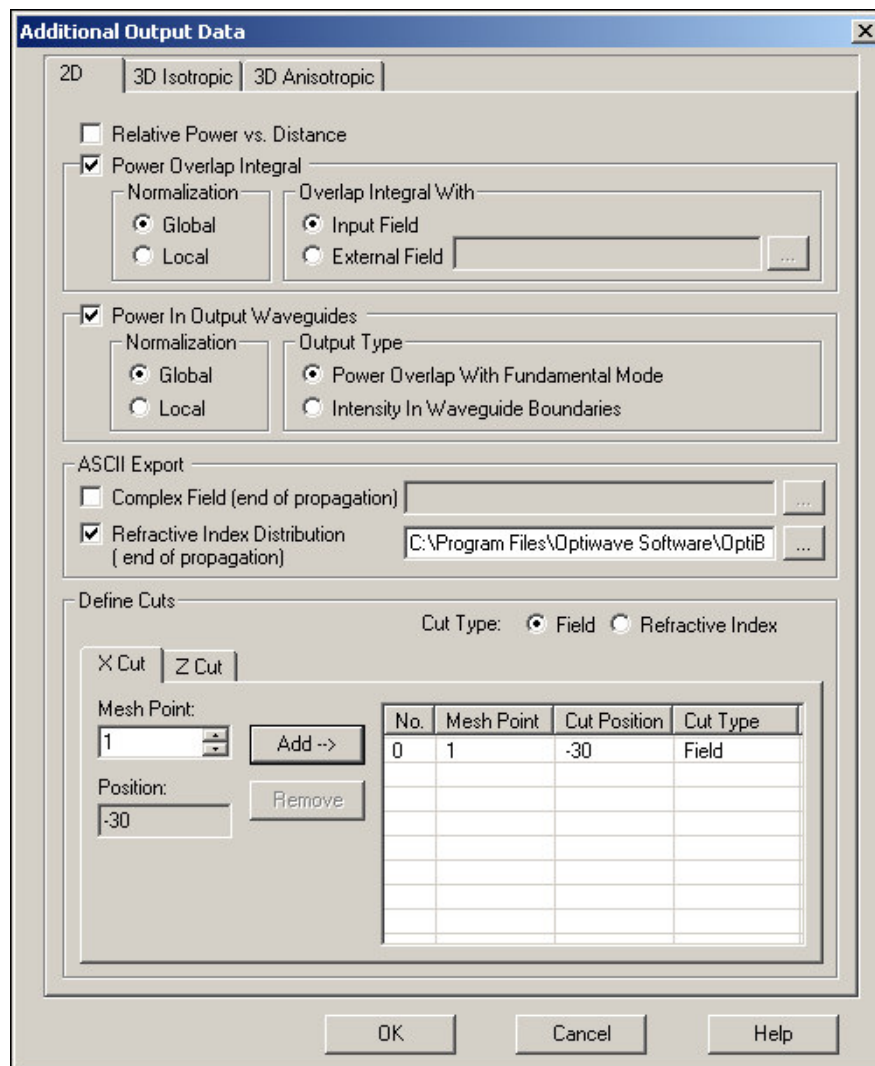


Additional Output Data

The additional output data is saved in selected files in the **Additional Output Data** dialog box. If you use the loop-like simulations from the **Scan Parameters** option, the resulting output files are additionally numbered according to the loop iteration numbers.

To open the **Additional Output Data** dialog box, from the **Simulation** menu, select **Additional Output Data** (see [Figure 183](#)).

Figure 183 Additional Output Data Files dialog box—2D tab



Additional Output Parameters—2D tab

Relative Power vs. Distance

Contains the relative power versus the distance of propagation. The power is normalized to its starting value. The power is defined as the sum of intensity values, where the summation runs over all transverse mesh points.

Default file extension: * .**rp**d

Power Overlap Integral

Contains the power overlap integral versus distance of propagation. The power overlap is an integral of two fields. One of the fields is the propagating field and the second is the reference field. The reference field can be the input field or any external field discretized on the same mesh. The overlap integral is normalized to the product of the two corresponding field powers. The integrals and powers are measured within the limits of the transverse mesh.

The overlap integral is also multiplied by a correction factor. The correction factor takes into account the power loss due to the radiation outside the numerical window. The overlap integral can be normalized locally or globally. For local normalization there is no correction for the radiation loss (the correction factor is equal to 1). For global normalization, the factor is equal to the relative power. Note that the relative power correction is distance-dependent.

Default file extension: * .**poi**

Normalization •Global: Includes the loss of power by radiation through the boundaries at the top and bottom on the calculation window.

- **Local:** Normalization in the integral that used the actual waveguide intensity within the waveguide boundaries.

Overlap Integral With •Input Field: Starting field at the input plane defined and calculated for the first propagation step.

- **External Field:** A field from an ASCII file; the file extension is .**f2d** or .**f3d**.

For more information, see [“Overlap Integral” on page 709](#).

Power in Output Waveguides

Contains the power in output waveguides (at the end of propagation). The power in each waveguide may be specified in two ways. One way is to define it as the overlap integral with the fundamental waveguide mode. A second way is to define it as the intensity integral within the waveguide boundaries. The power in output waveguide is normalized locally or globally. The local normalization does not take into account the power loss due to the radiation outside the mesh. The global normalization introduces a radiation correction factor equal to the relative power.

Default file extension: * .**piw**

Normalization •Global: Includes the loss of power by radiation through the boundaries at the top and bottom on the calculation window.



- **Local:** Normalization in the integral that used the actual waveguide intensity within the waveguide boundaries.

Output Type •Power Overlap With Fundamental Mode: Produces power overlap of the current BPM field with the fundamental mode of a studied waveguide in this position, where the overlap integral is calculated.

- **Intensity In Waveguide Boundaries:** Considers the intensity of the field at the boundaries of the waveguide.

ASCII Export

Complex Field (end of propagation) check box Contains the complex field amplitude at the end of propagation. The field is stored for all mesh points at the end of the propagation distance. Click the **Browse** to select a location to save the data.

Default file extension: * . **f2d**

Note: This check box must be selected for data entry.

Refractive Index Distribution (end of propagation) check box Contains the refractive index distribution at Z=Length of Wafer.

Default file extension: * . **rid**

Note: This check box must be selected for data entry.

Define Cuts

Allows you to define cross-sections of 2D or 3D data.

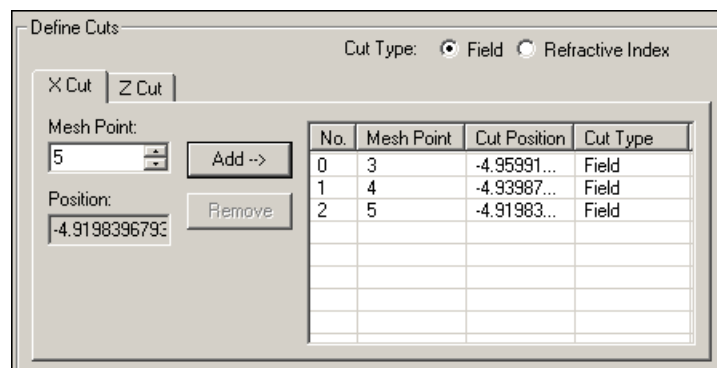
Cut Type There are two types of cut data that can be stored: Optical Fields and Refractive Index. Both types of cuts can be stored during a simulation.

- **Field:** The optical fields are stored.
- **Refractive Index:** The refractive index cuts are stored.

X Cut Tab

The X Cut tab allows you to save cross-sections of field and refractive index (see [Figure 184](#)).

Figure 184 X Cut Tab



For the X Cut, the data section is controlled by the mesh point number. Enter that number in **Mesh Point** For your reference, the cut position in microns is also displayed. Once you entered the Mesh Point number, click **Add/Apply** to put the cut on the list below.

If the **Use Default File Name** is selected, the program automatically generates cut file names adding the mesh point numbers to the names. You may delete a cut file from the list by selecting it and clicking **Remove**.

Cut Type defines what kind of data is exported for this cut.

- **Field:** Optical Field data is stored.
- **Refractive Index:** Refractive index data is stored.

Mesh Point Wafer mesh coordinate at which you take the X cut.

Add: Click to add the mesh point to the **Mesh Point** list.

Remove: Click to remove a mesh point from the Mesh Point list.

Position: Position in microns in the wafer based on the number of mesh points.

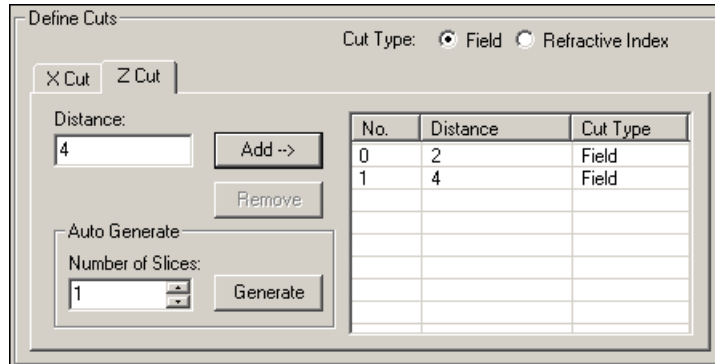
No. Number of mesh points.

Cut Position Cut based on the X coordinate.

Z Cut tab

The Z Cut tab is active only for 3D output data files. The propagation distance controls the data section. You may select the cut distance manually, followed by pressing Add button. Another option is to automatically generate a selected number of evenly-spaced slices from Z=0 to the currently displayed distance (see [Figure 185](#)).

Figure 185 Z Cut Tab



Cut Type **Cut Type** can be Field or Refractive Index. These define what kind of data will be exported for this cut.

- **Field:** Optical field data is stored.
- **Refractive Index:** Refractive index data is stored.

Distance Z-coordinate of the cut.

Add button Click to add the distance to the **Distance** list.

Remove button Click to remove a distance from the **Distance** list.

Auto Generate The slices specified by the **Number of slices** will be generated automatically.

Generate

Click to generate the slices according to data entered in the **Number of Slices** edit box.

No.

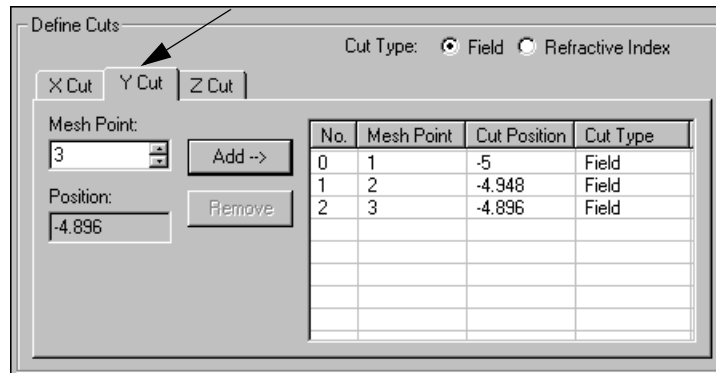
Number of mesh points.

Additional Output Parameters—3D Isotropic tab

The difference between the **2D** tab and the **3D Isotropic** tab is that 3D Isotropic contains a **Y Cut** tab, in addition to the **X Cut** and **Z Cut** tabs (see [Figure 186](#)).

Refer to [Additional Output Parameters—2D tab](#) for more information.

Figure 186 YCut tab



Cut Type defines what kind of data is exported for this cut.

- **Field:** Optical field data is stored.
- **Refractive Index:** Refractive index data is stored.

Distance Y-coordinate of the cut.

Add click to add the mesh point to the **Mesh Point** list.

Remove click to remove a mesh point to the **Mesh Point** list.

Auto Generate slices specified by the **Number of slices** are generated automatically.

Generate

Click to generate the slices according to data in the **Number of Slices**.

No.

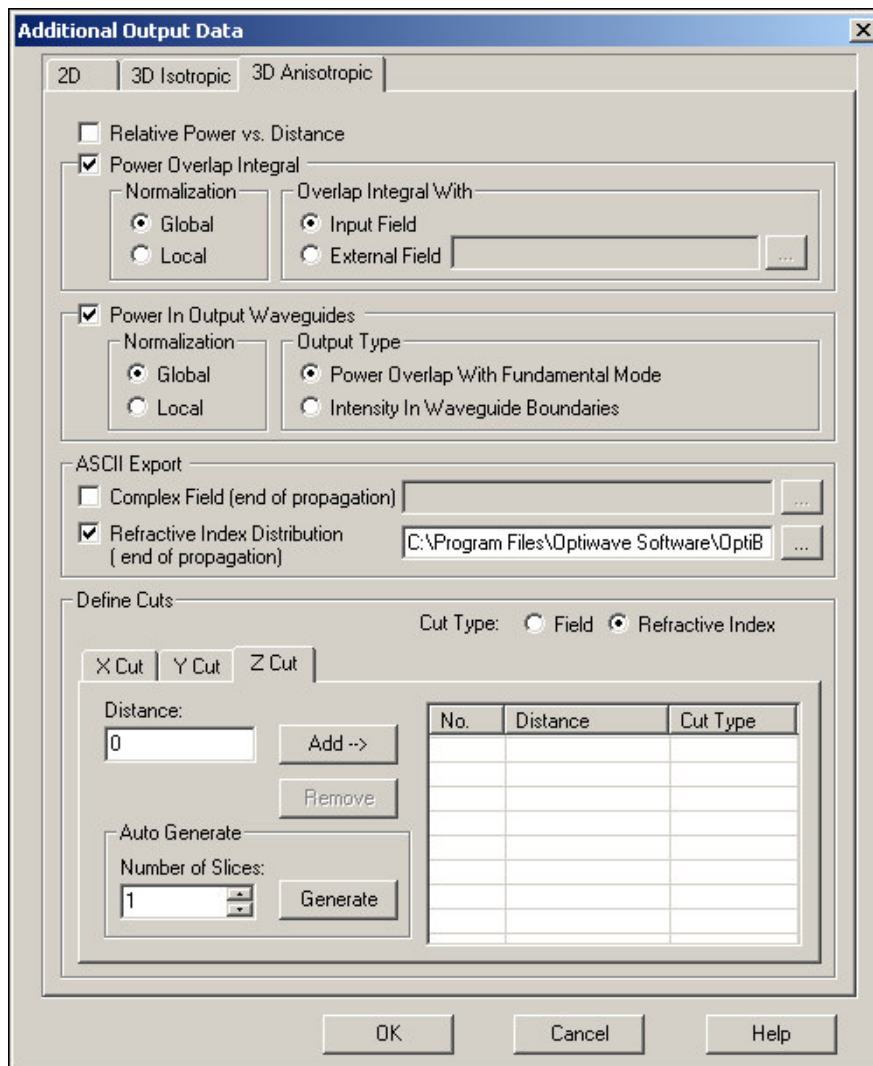
Number of mesh points.

Additional Output Parameters—3D Anisotropic tab

The difference between the **2D** tab and the **3D Anisotropic** tab is that 3D Anisotropic contains a **Y Cut** tab, in addition to the **X Cut** and **Z Cut** tabs (see [Figure 186](#)).

Refer to [Additional Output Parameters—2D tab](#) for more information.

Figure 187 Additional Output Data Files dialog box—3D Anisotropic tab



Cut Type defines what kind of data is exported for this cut.

- **Field:** Optical field data is stored.
- **Refractive Index:** Refractive index data is stored.

Distance Y-coordinate of the cut.

Add click to add the mesh point to the **Mesh Point** list.



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Remove click to remove a mesh point to the **Mesh Point** list.

Auto Generate slices specified by the **Number of slices** are generated automatically.

Generate

Click to generate the slices according to data in the **Number of Slices**.

No.

Number of mesh points.

