GenISys
Advancing the Standard

BEAMER

Update – What‘s new / What‘s coming up

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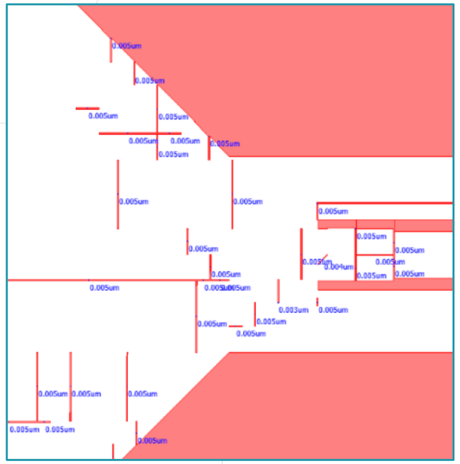
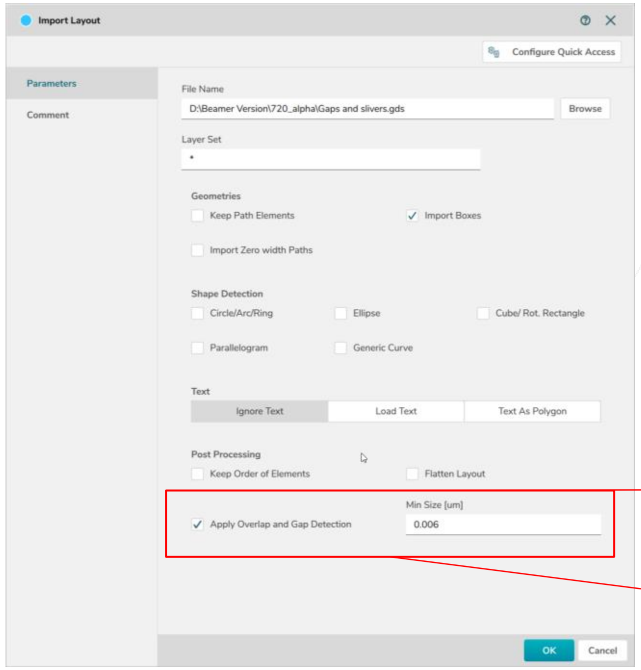
VIEWER

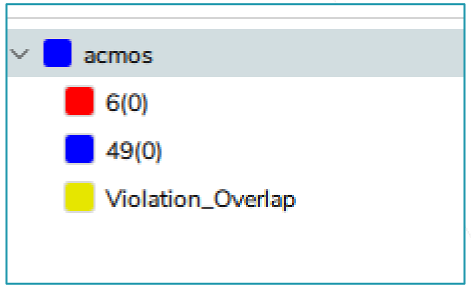
Pattern validation

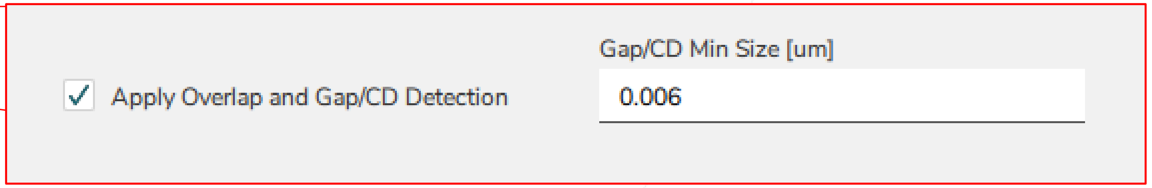
GDS and DXF Import new feature:
Small elements with unintended design issues (gaps and slivers) can be detected and highlighted in viewing mode.

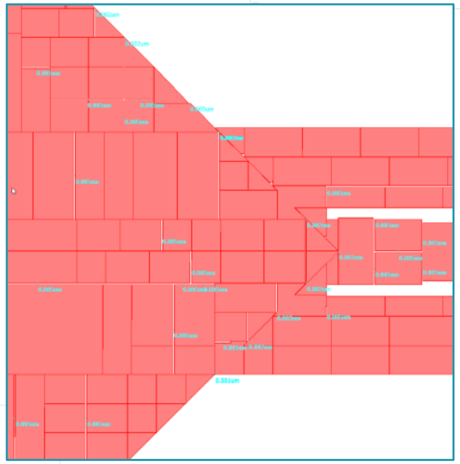




Additional *Layers* are created

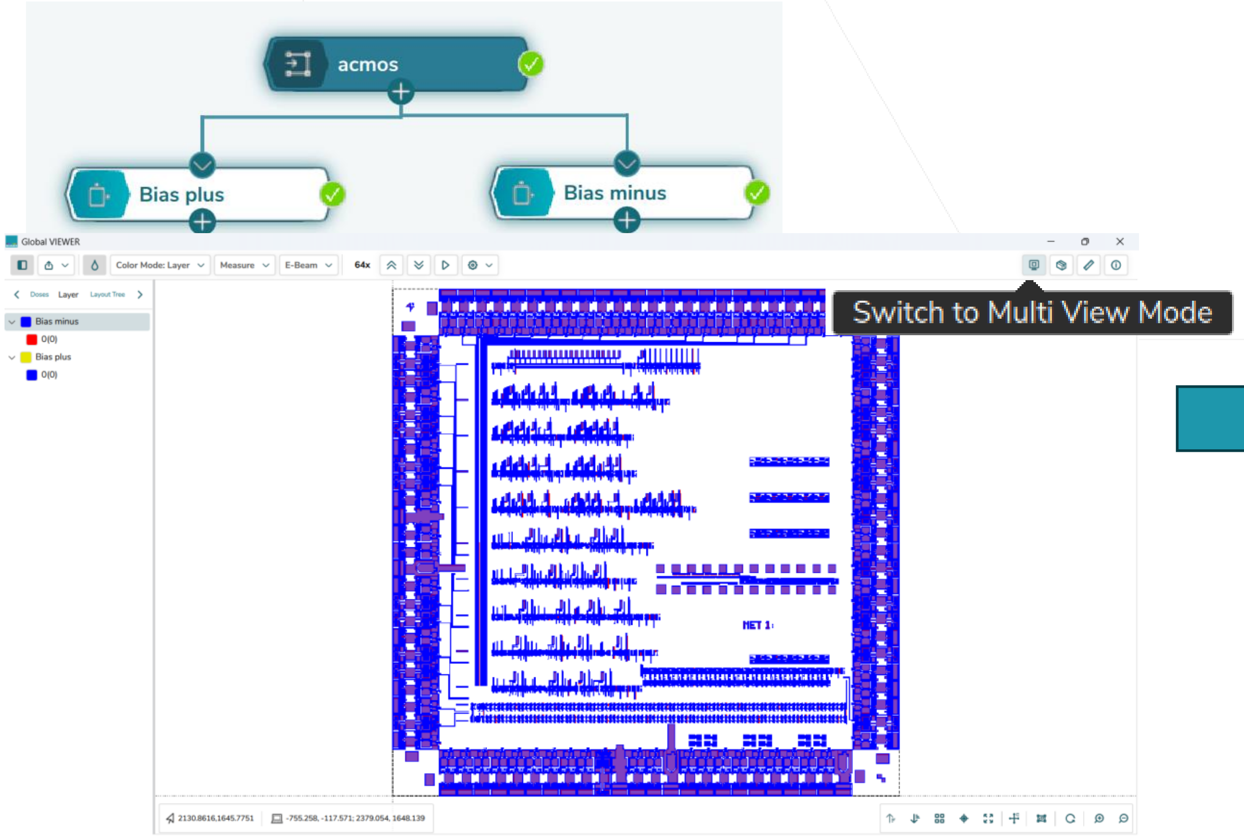


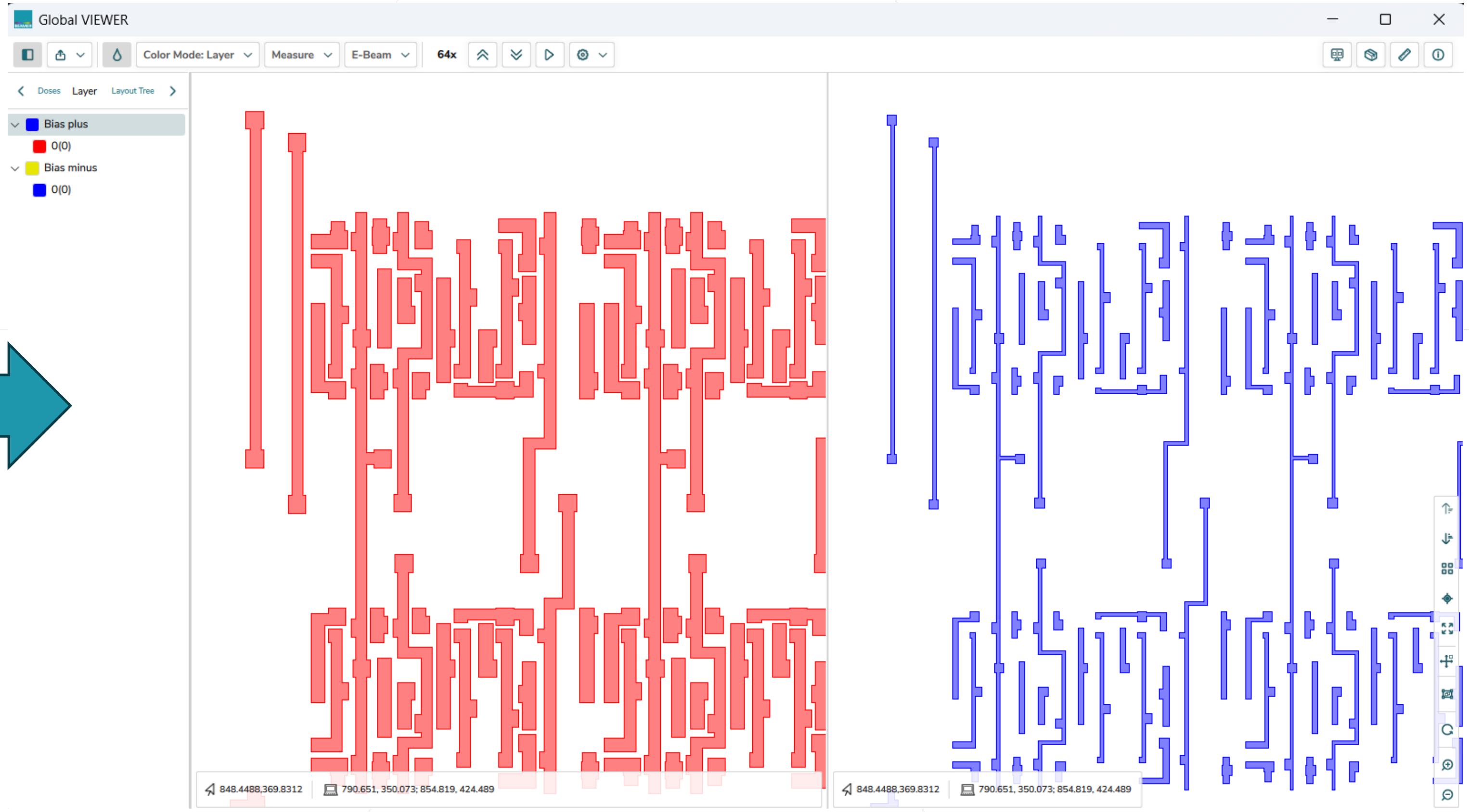




Switch to Multi View Mode

BEAMER integrates a Multi View Mode allowing to visualise two results side by side

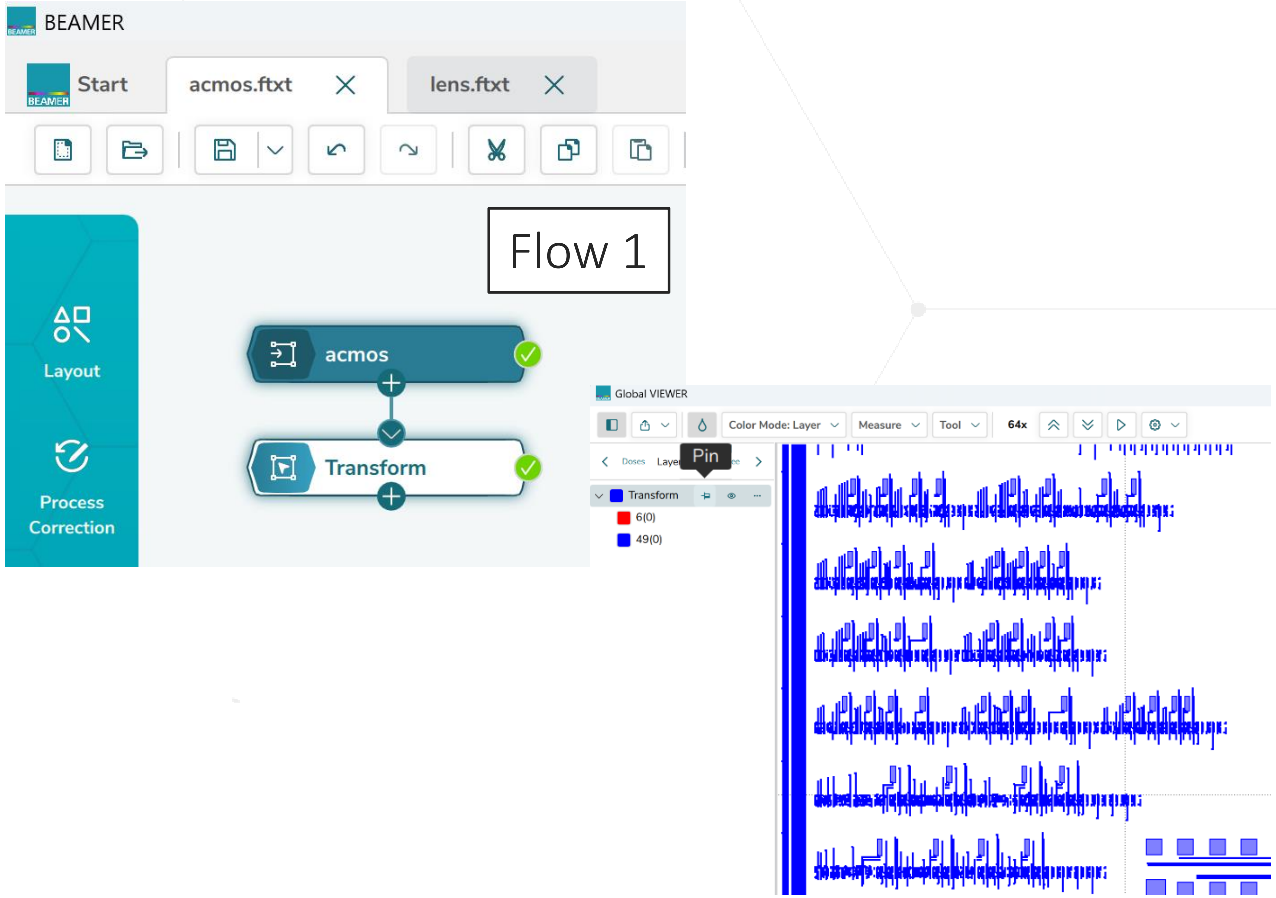


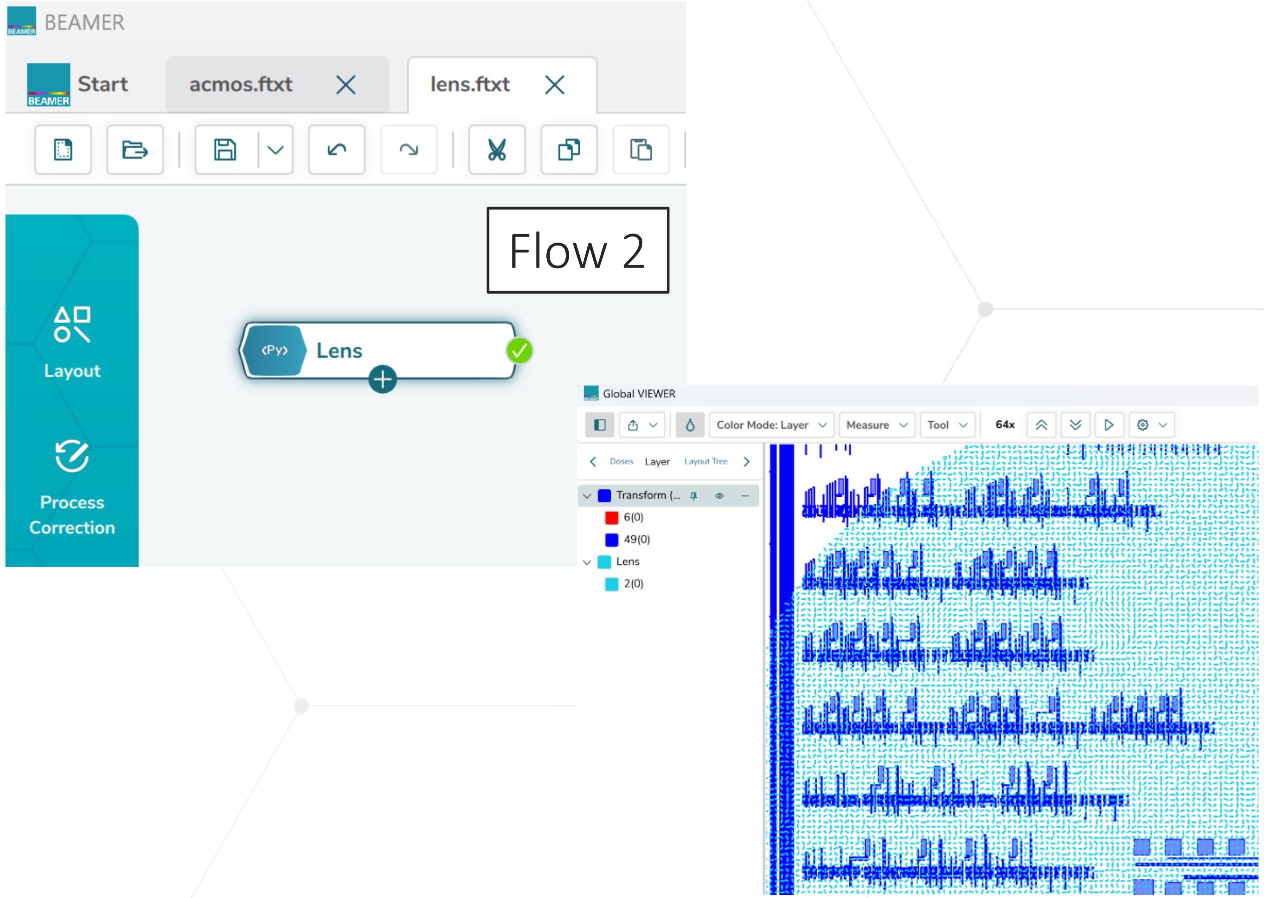


Zooming and navigating one layout moves and adjusts the second layout accordingly

Pinning Layouts

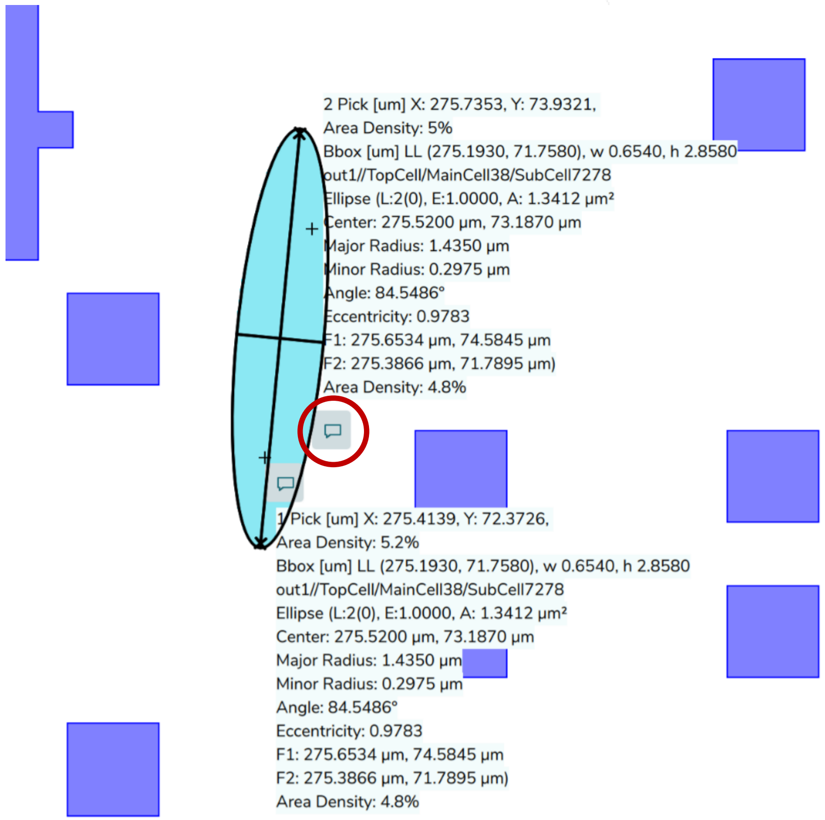
The **Pin** feature in the *Global Viewer* allows inspecting two or more **layouts across different flows**

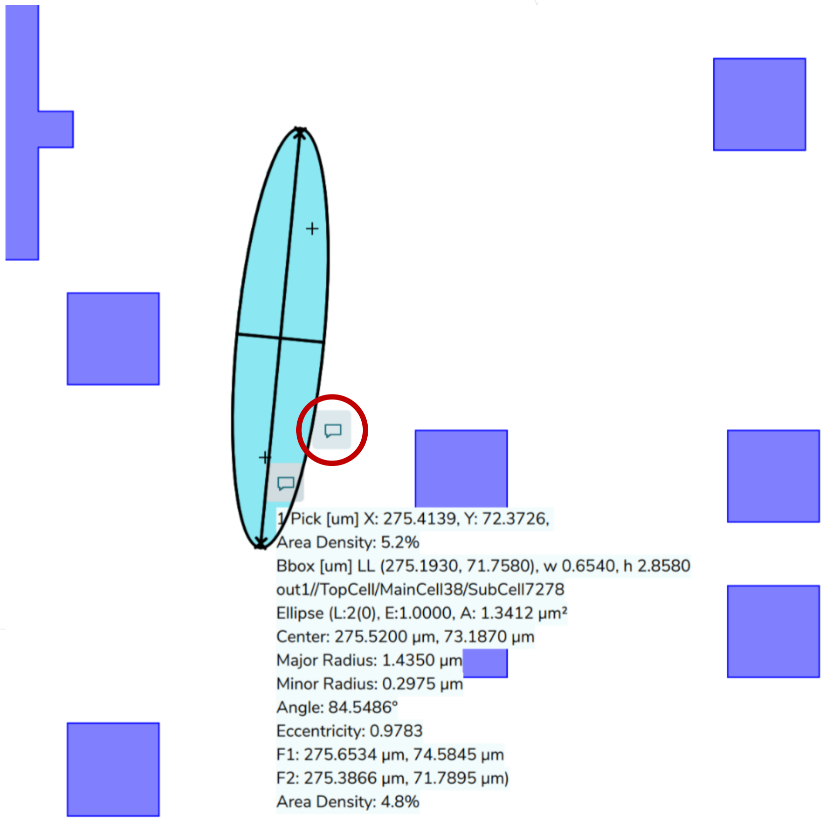




Picking viewer elements

The **information** displayed when **picking a spot** in a shape can be **hidden** making easier to get and read **multiple picks** at the time

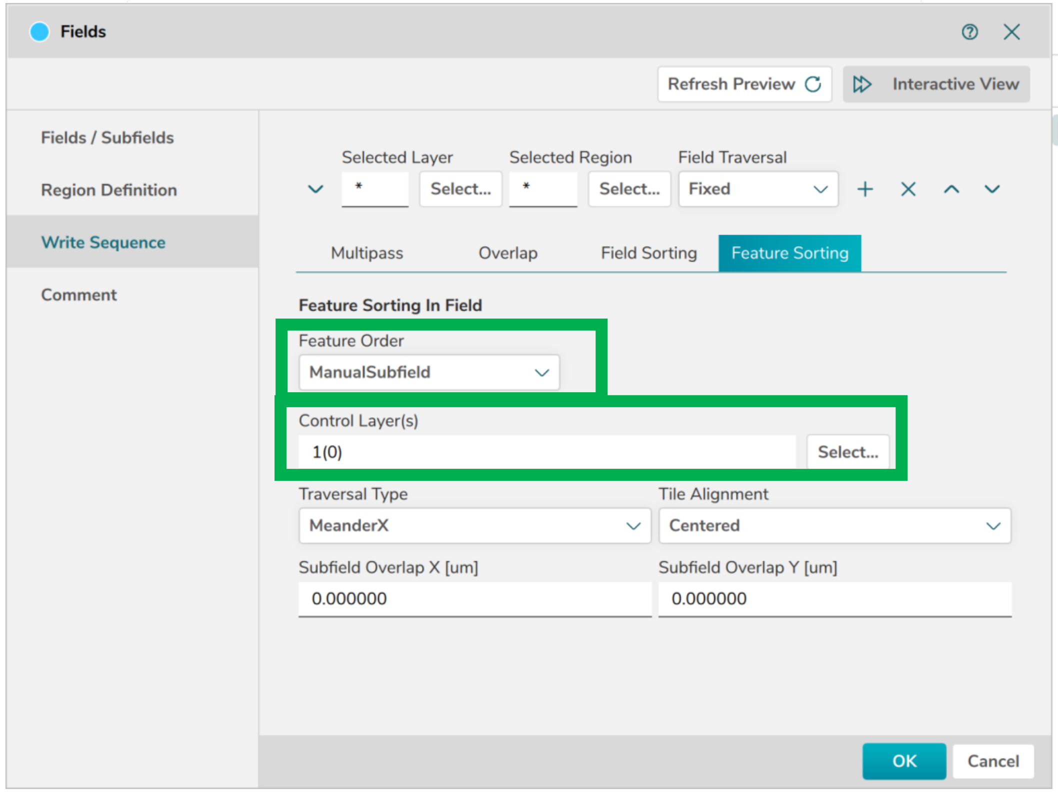


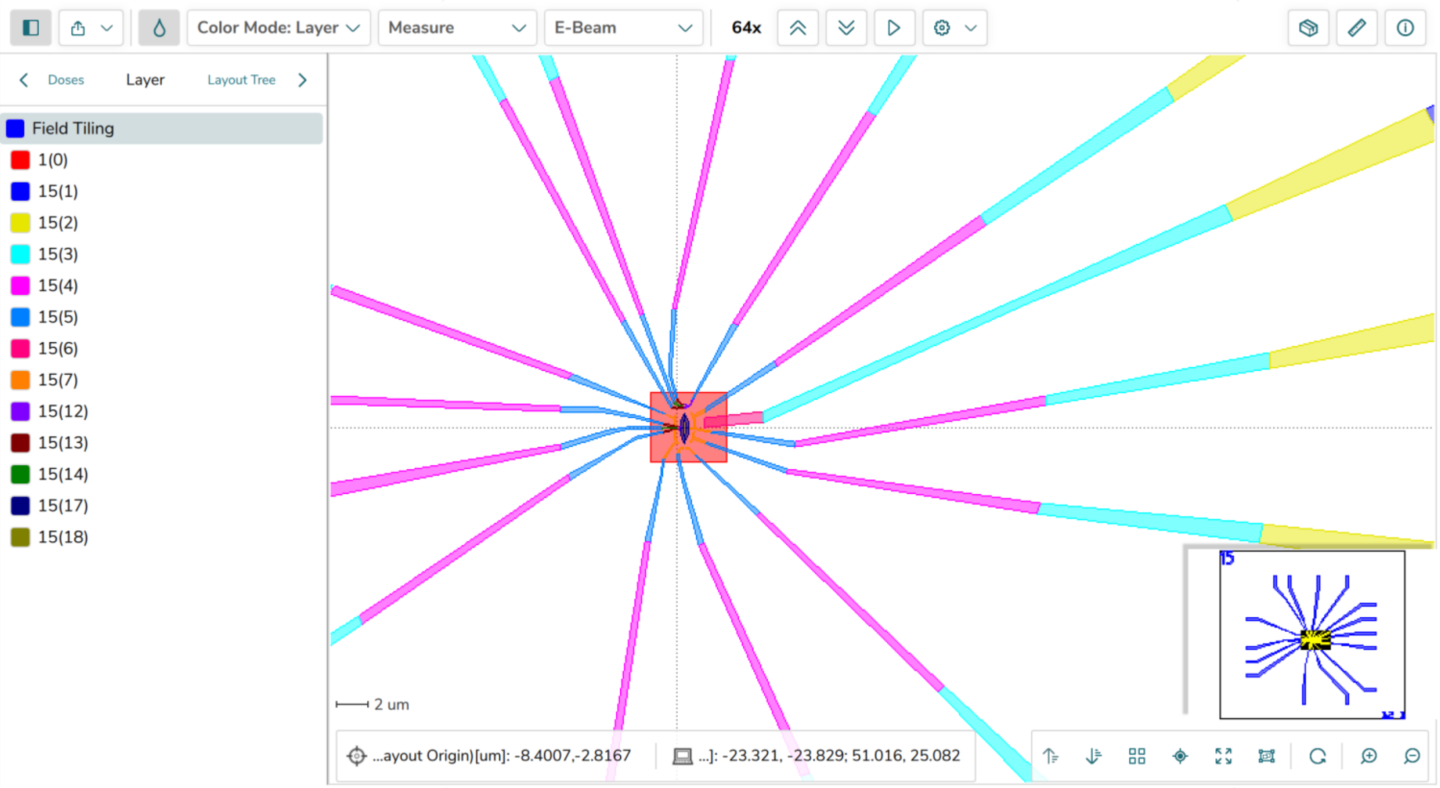


Field / Feature sorting

Fields module – ManualSubfield mode

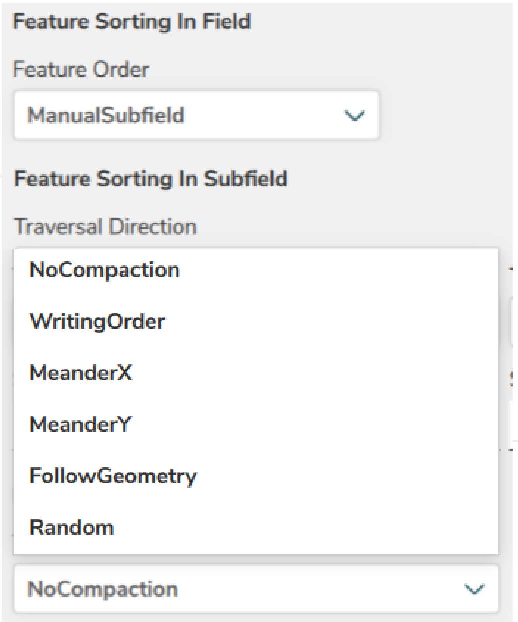
- The exposure order of critical regions within a Field are optimized using ManualSubfield
- The Control layer can be used to identify critical layout parts

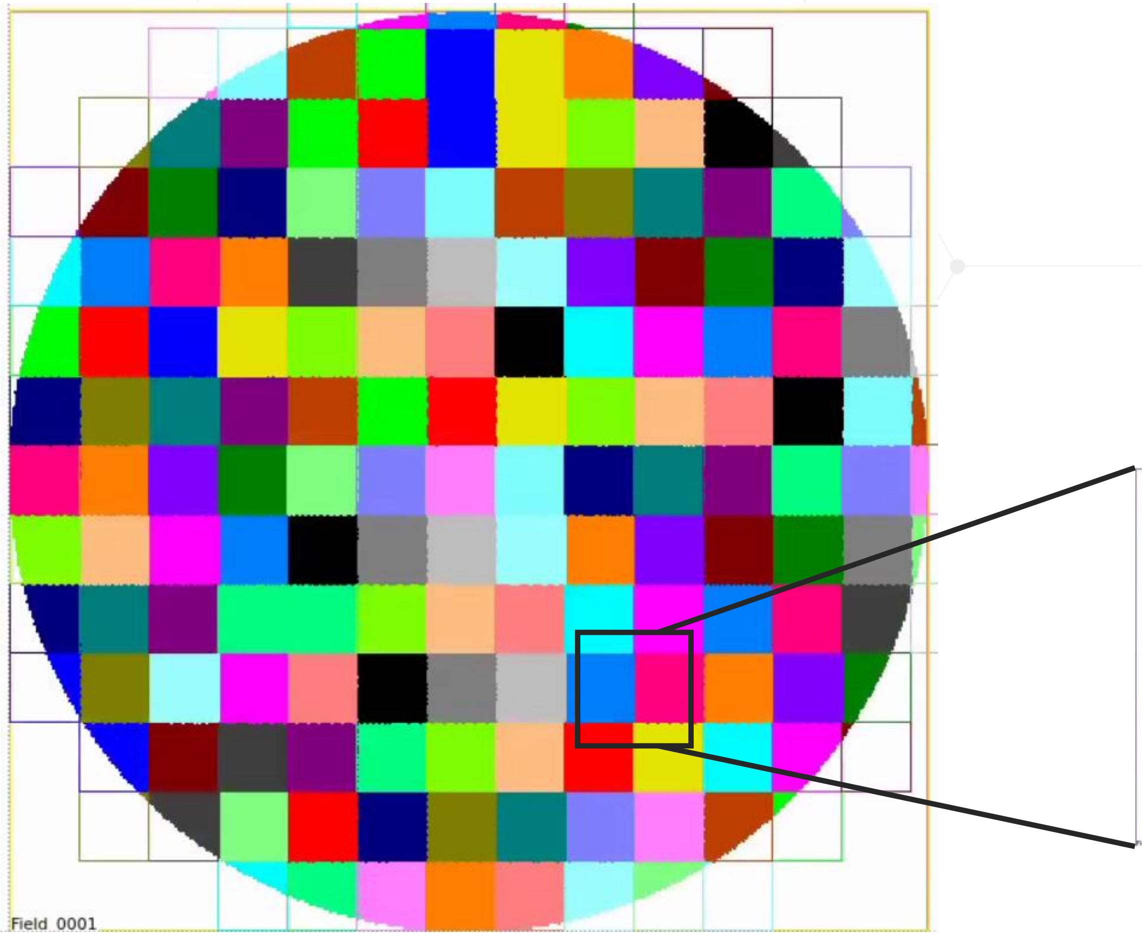


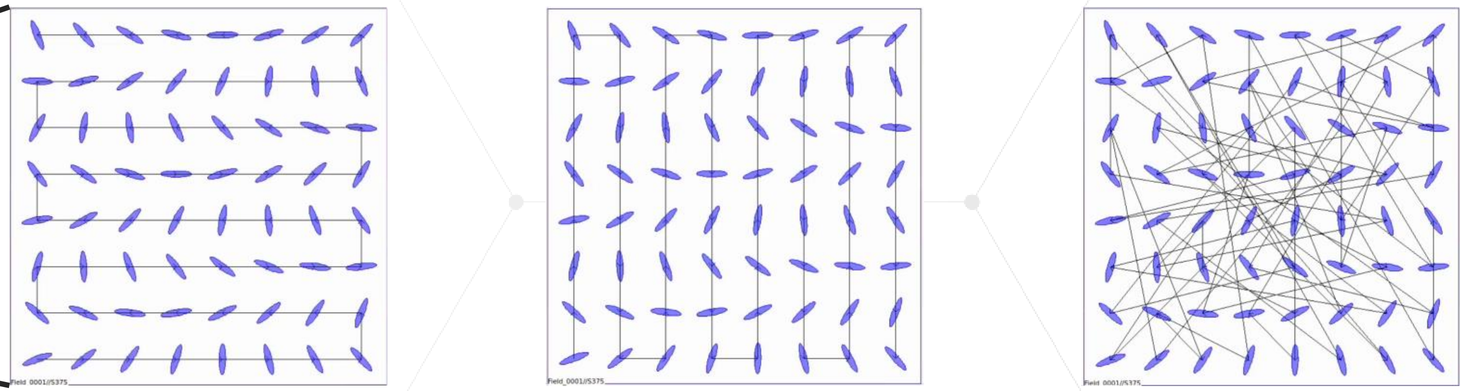


Manual Subfield ordering

BEAMER extends the writing field control down to the Subfield level using the Manual Subfield feature sorting, by applying a write sequence to the shapes within a subfield.



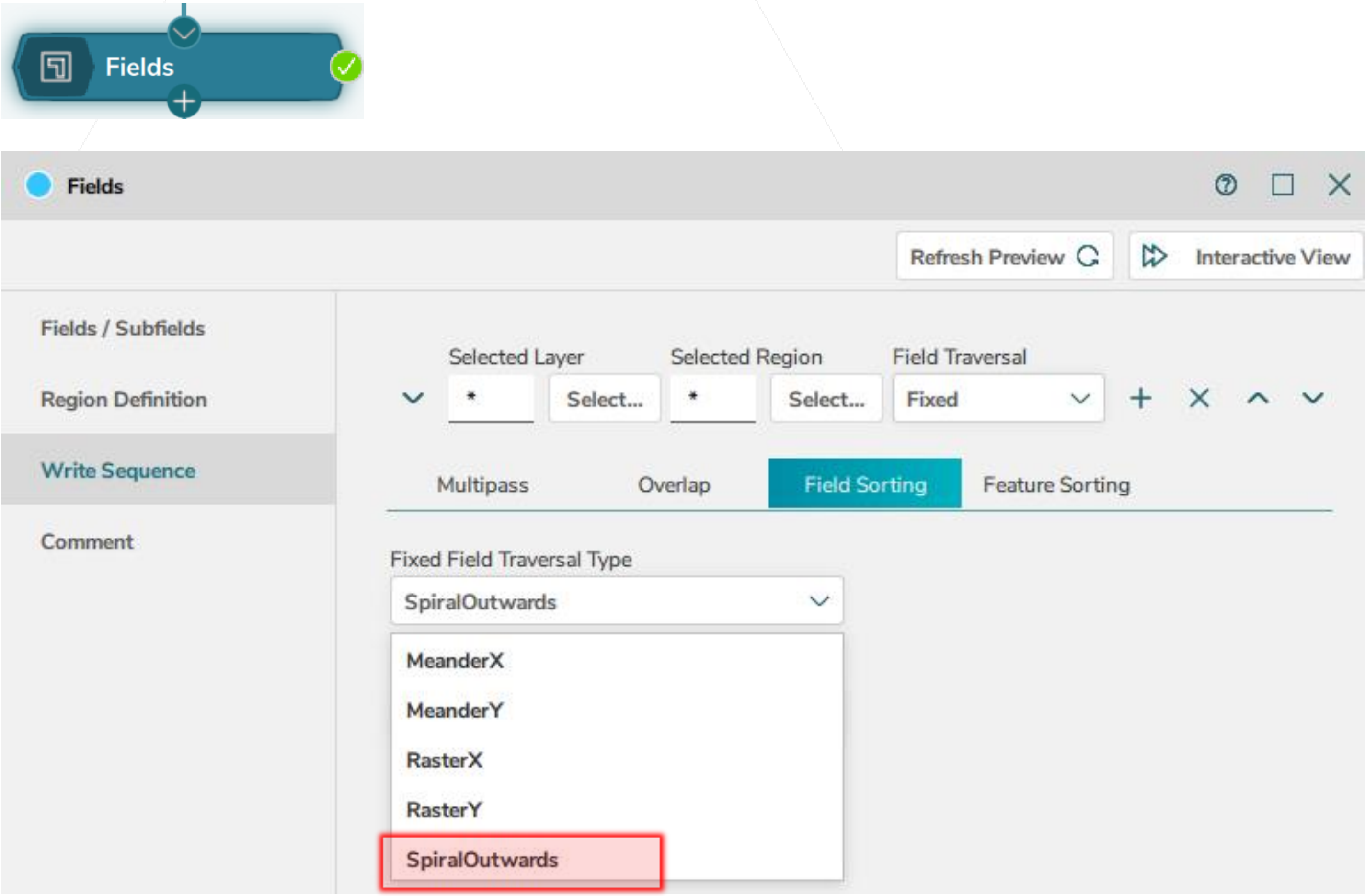


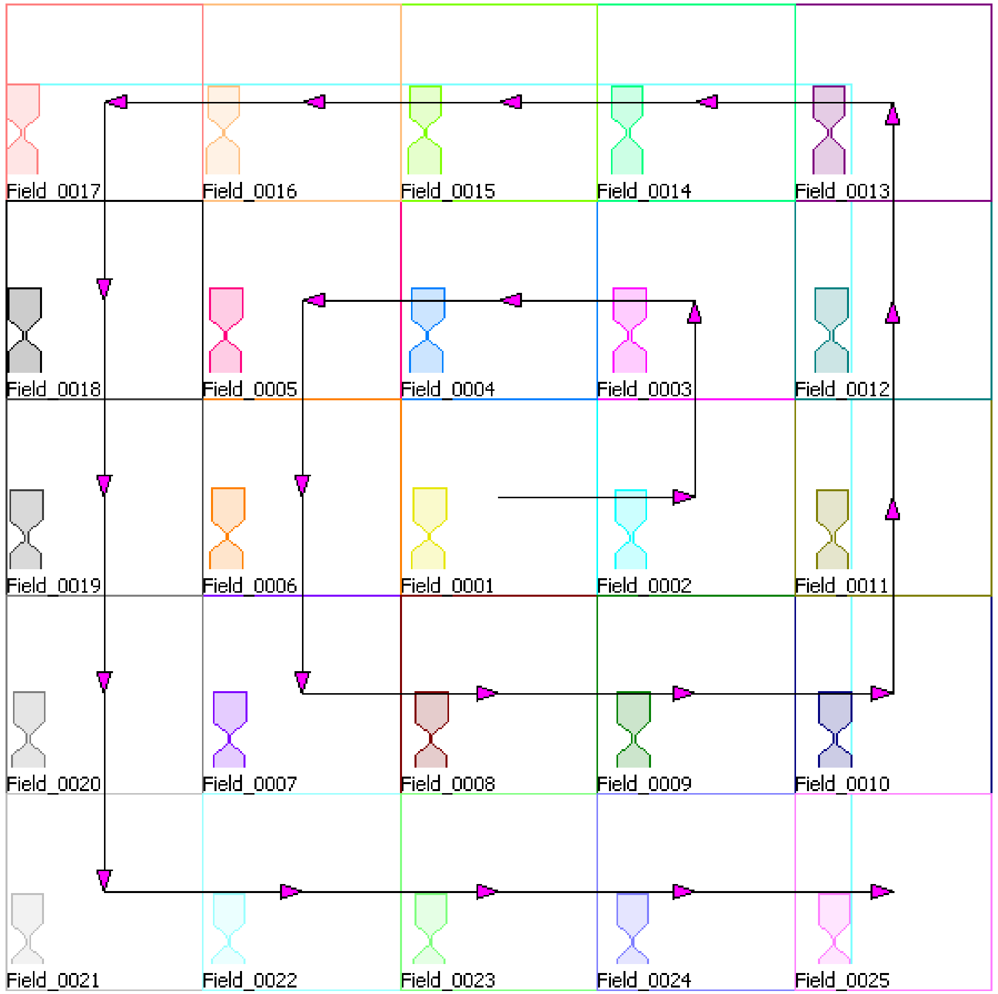


Meander X   Meander Y   Random

Field Sorting – SpiralOutwards

Spiral Outwards has been added to the Write Sequence/ Fixed Field Traversal mode/ Field Sorting/ Fixed Field Traversal Type setting.

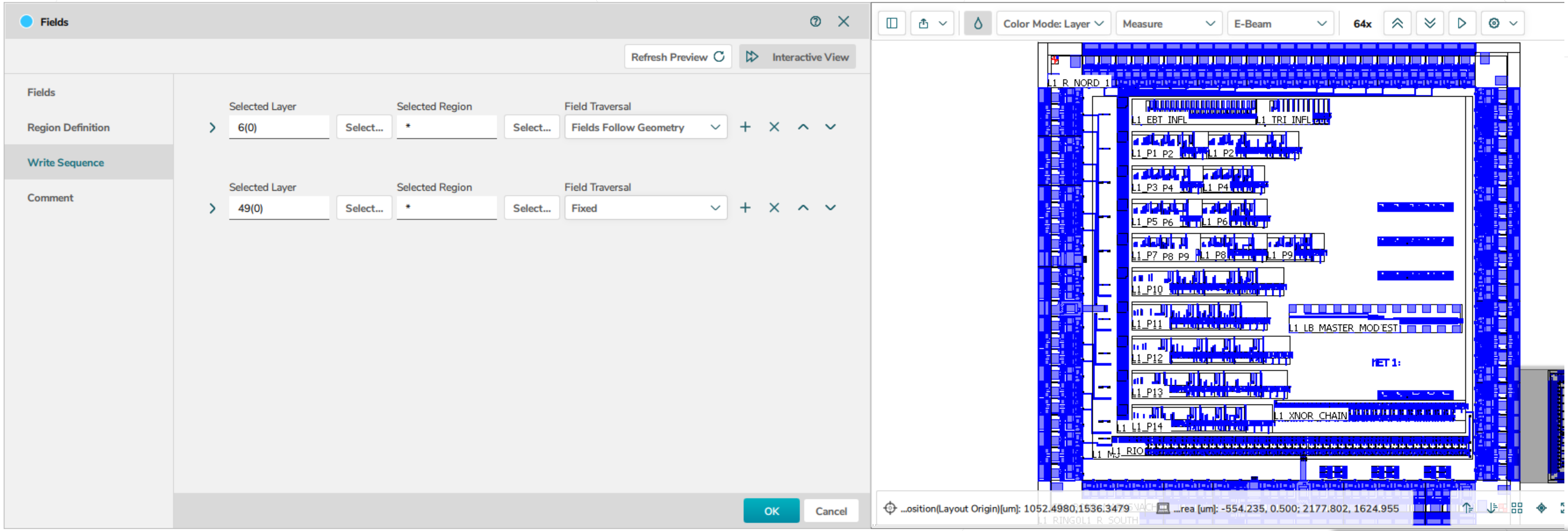




Fields module

New field sorting module – for advanced Region and field sorting applications

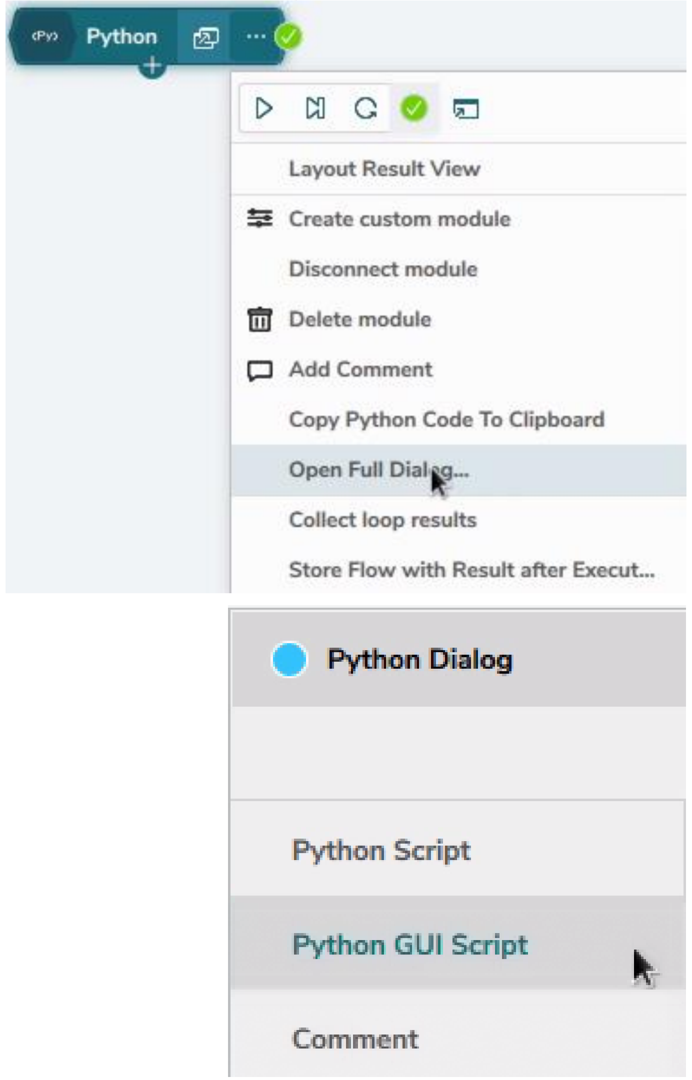
- The fields module can create field and region/ sub fields within a layout
- During the system specific export, the user makes use of this structure via cell to field / cell to SF

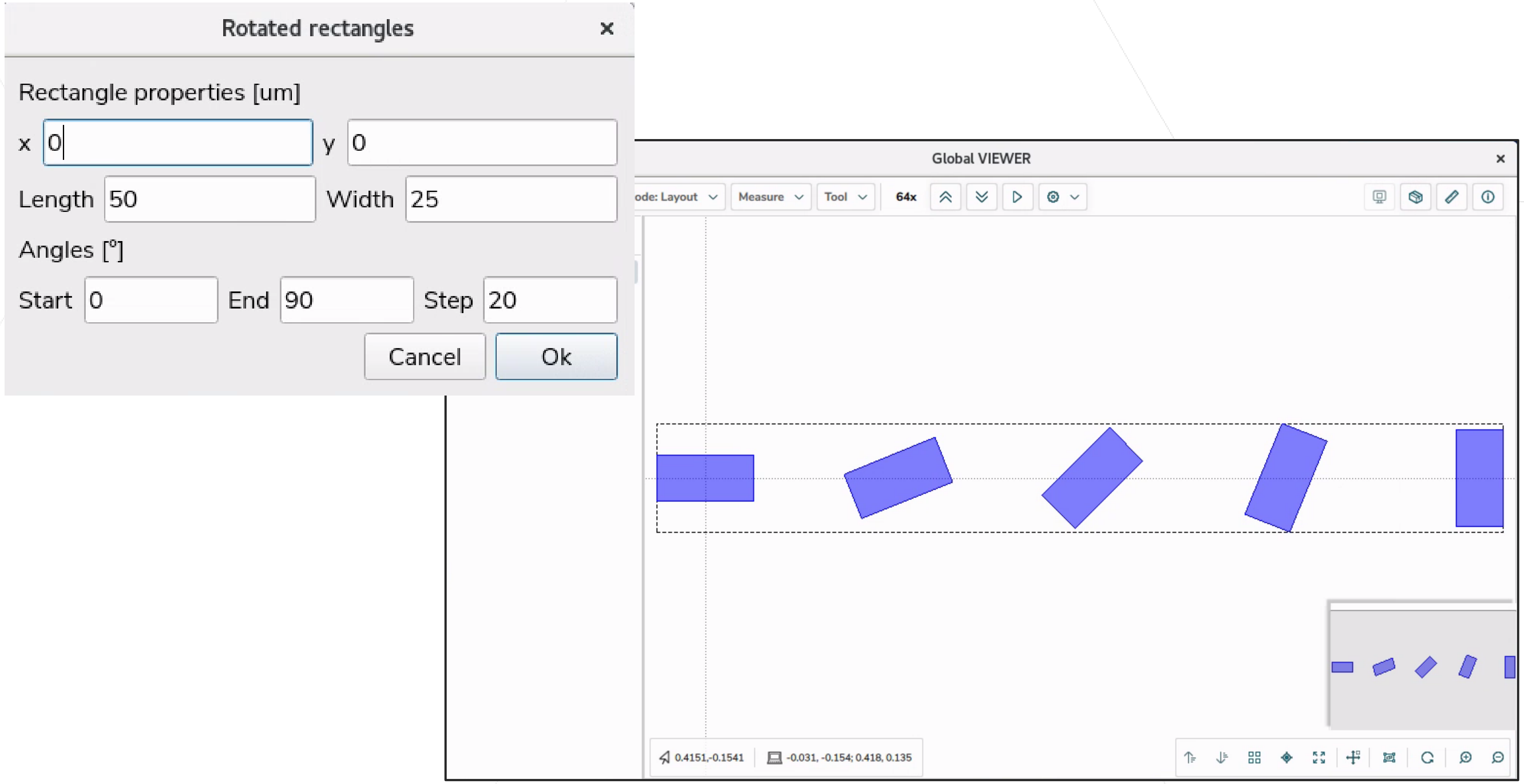


Python module

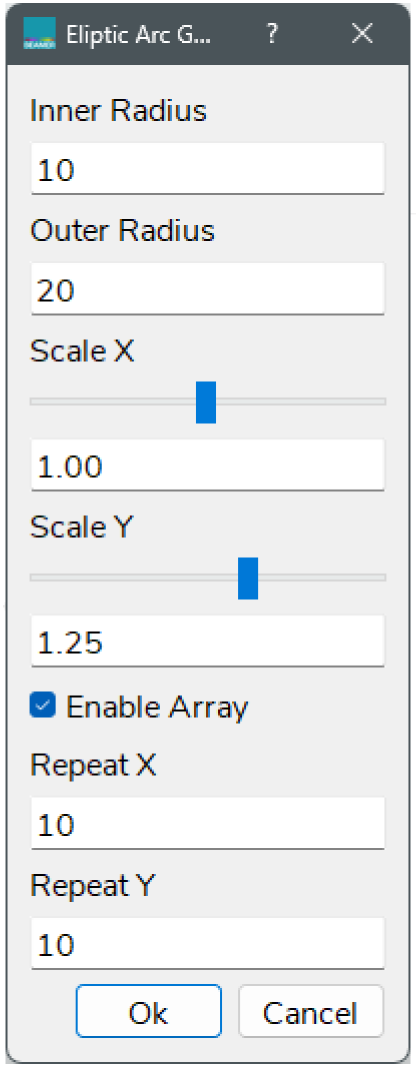
Python Module – GUI

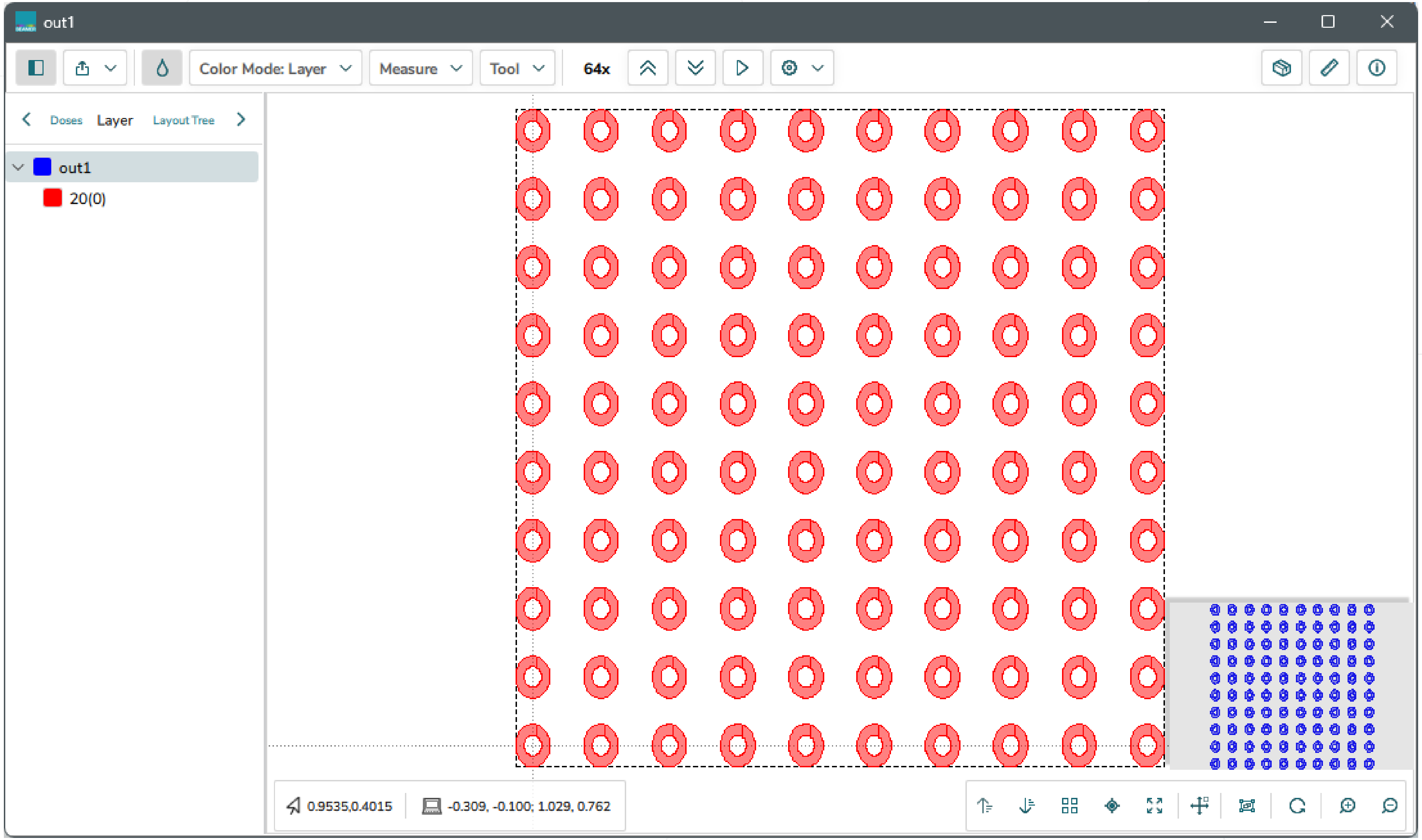
BEAMER expands the Python Module capabilities adding a Python GUI Scripting enabling easier and faster **BEAMER**-Python interaction





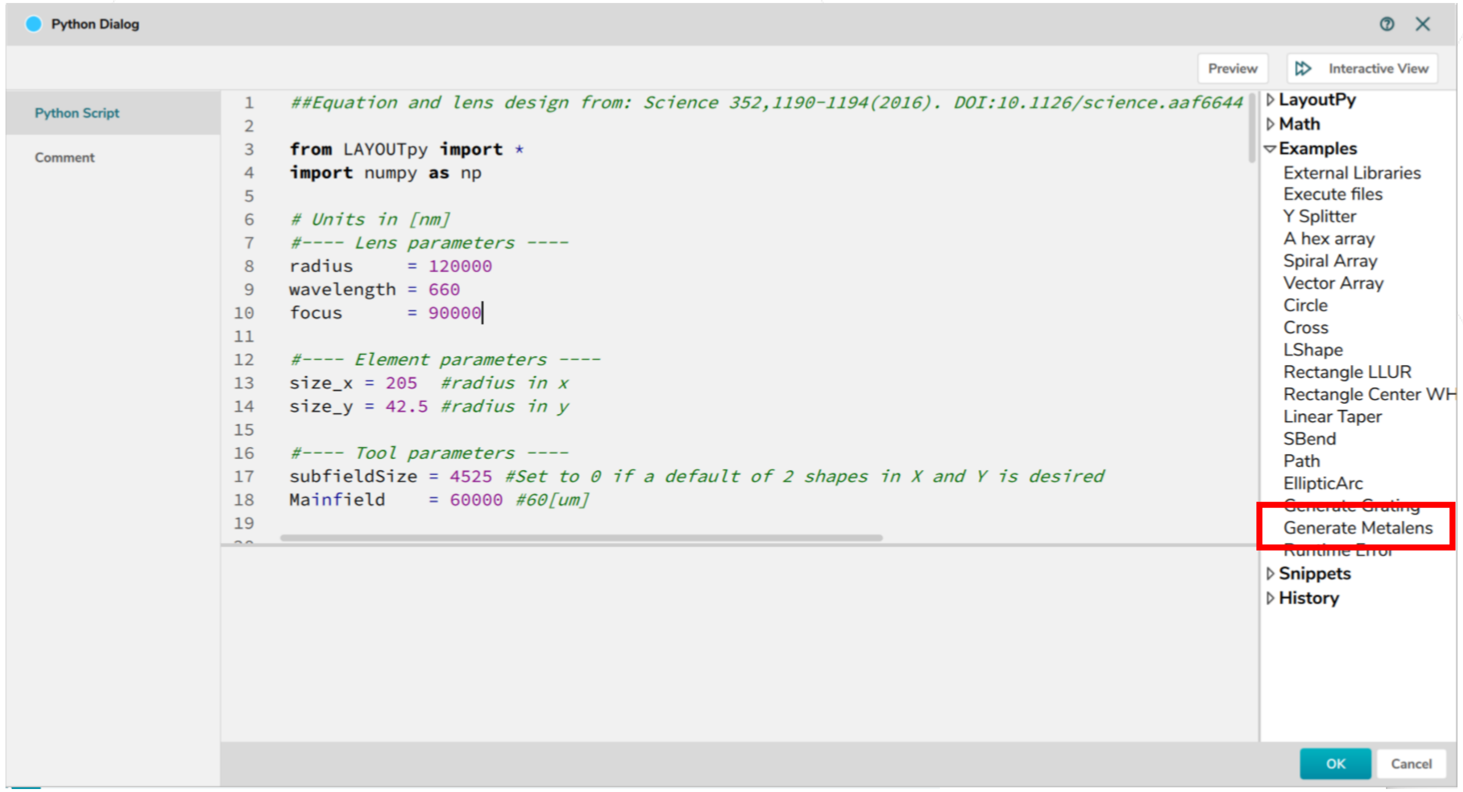
Python Module – GUI

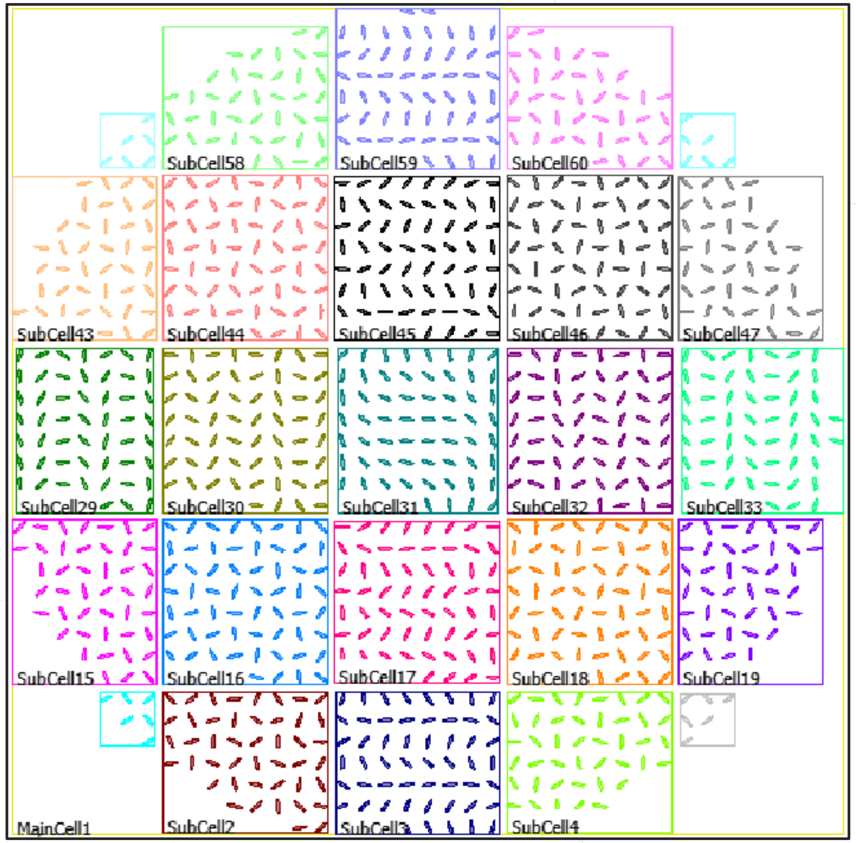




LayoutPy Metalenses

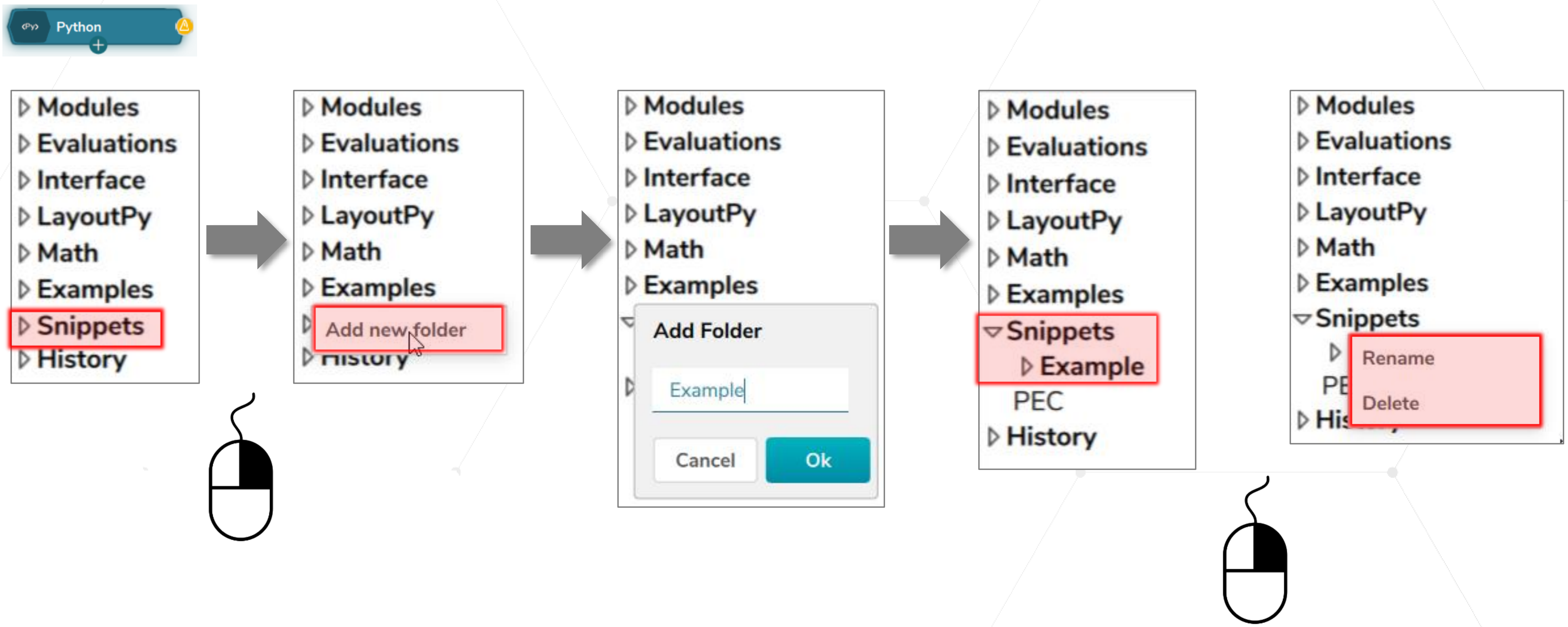
- LayoutPy includes a simple example to create *Metalenses* for a desired wavelength and focal length and with optimised Field and Subfield ordering





Python Module

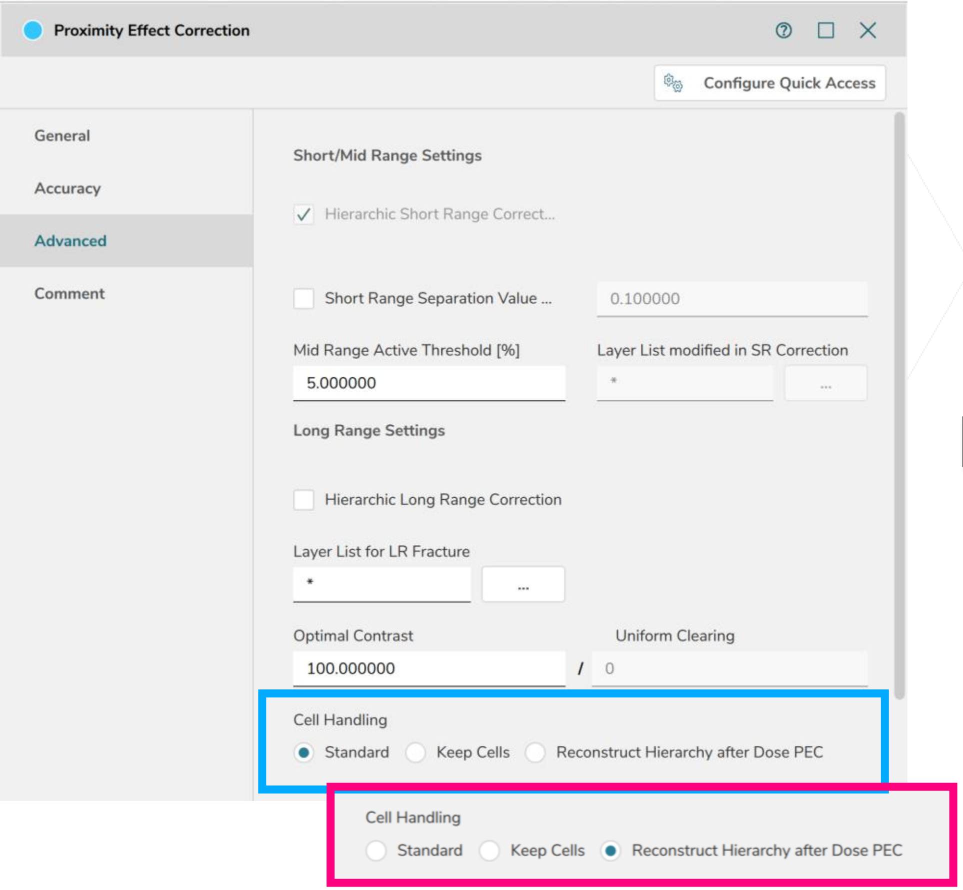
Python module allows new **Folder** option for **Snippets**

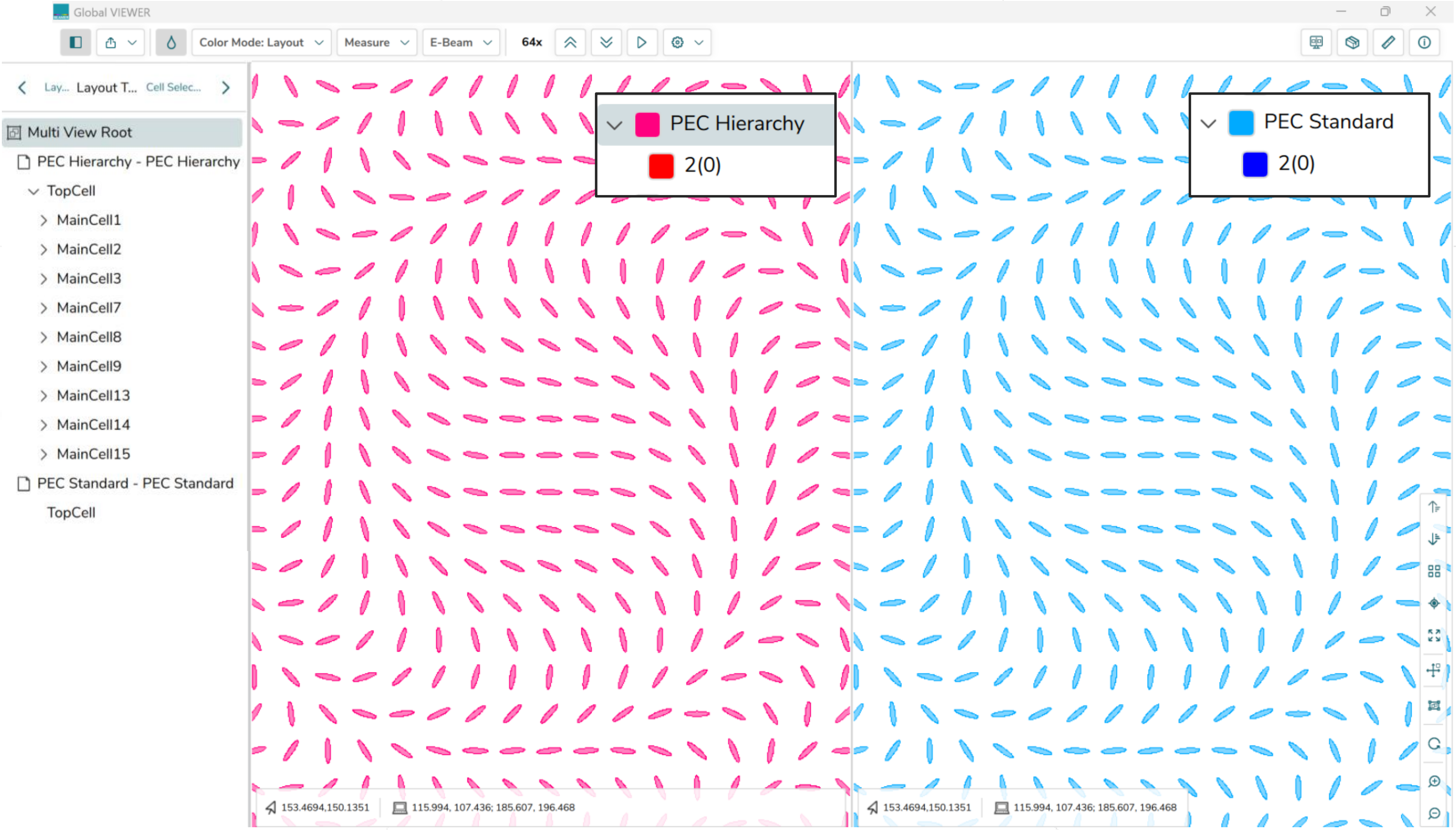


PEC

Hierarchy levels in PEC

PEC preserves Hierarchy maintaining field order and allowing to use *Cell To Field* during layout export

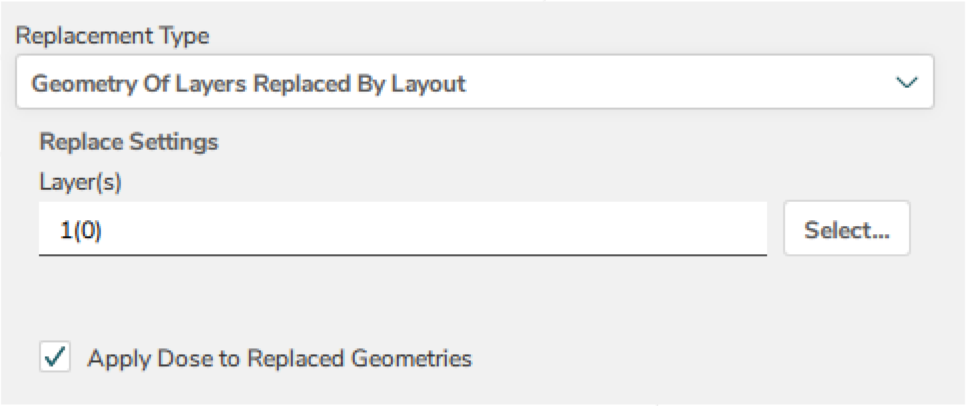


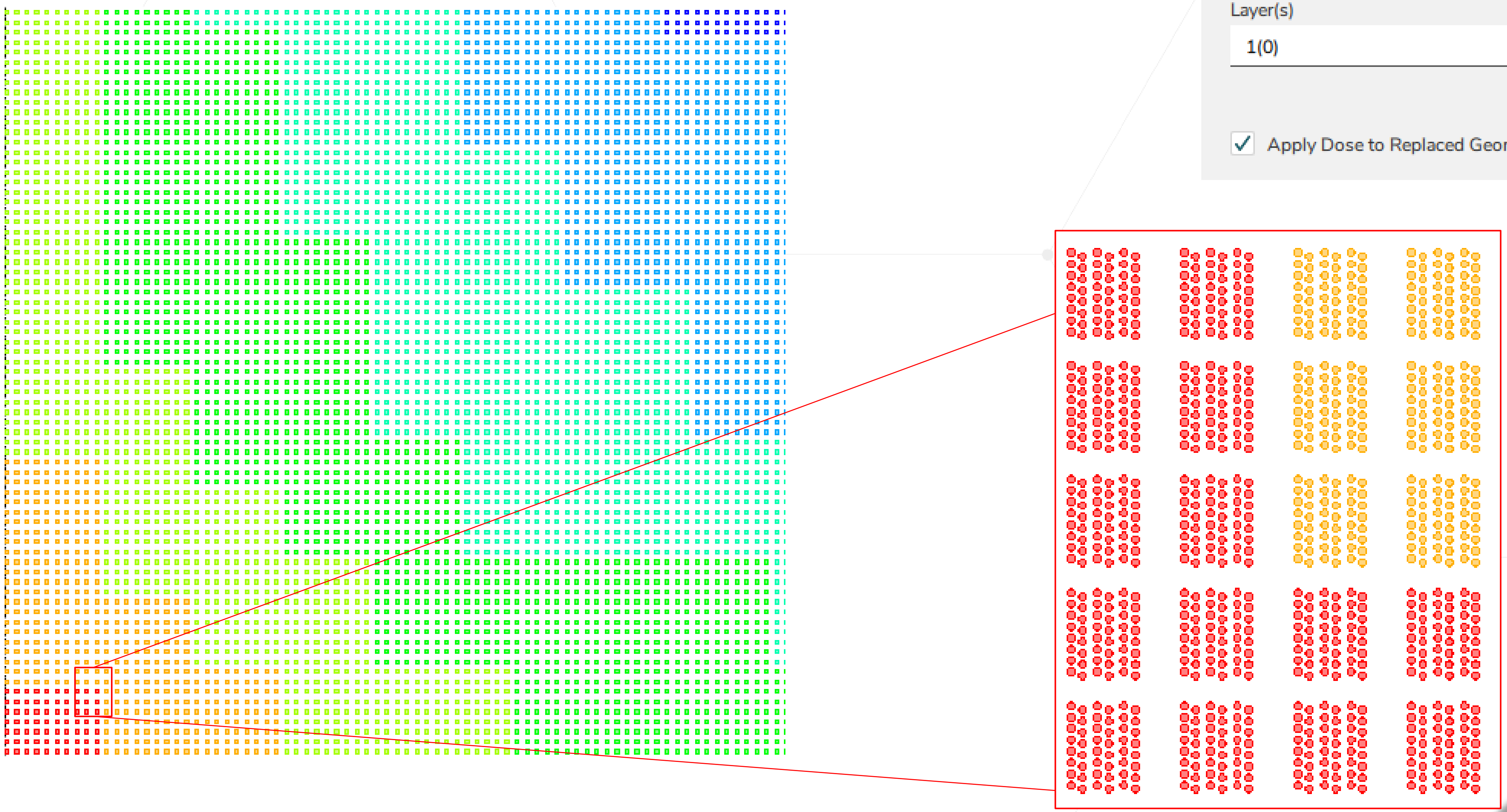


Layout operation

REPLACE inherits dose from placeholder

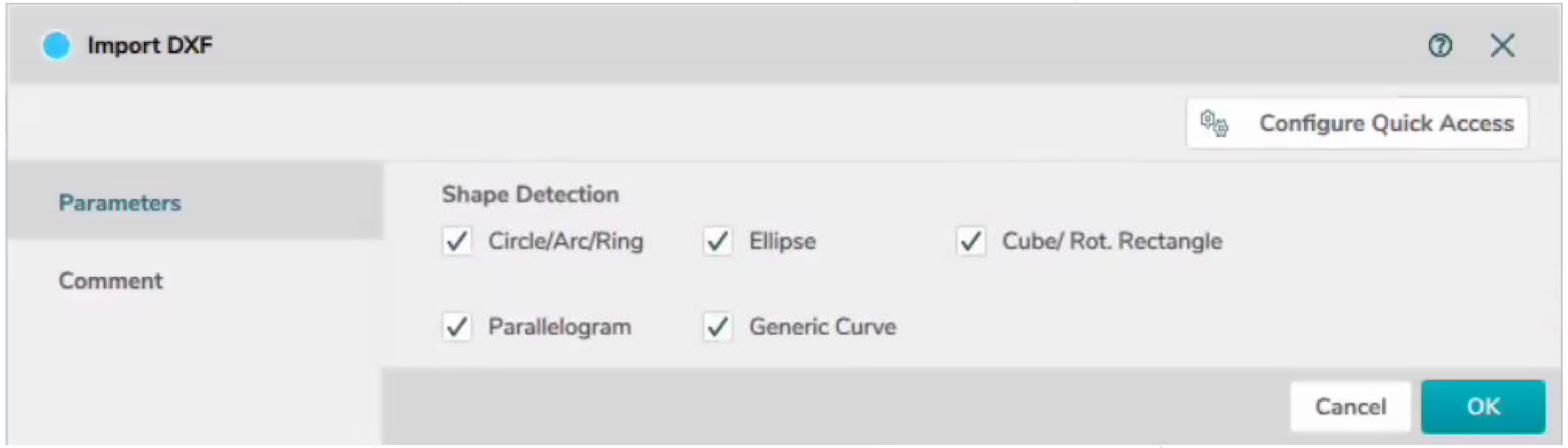
REPLACE can now inherit the dose information of the element it is replacing and apply it to the input pattern.

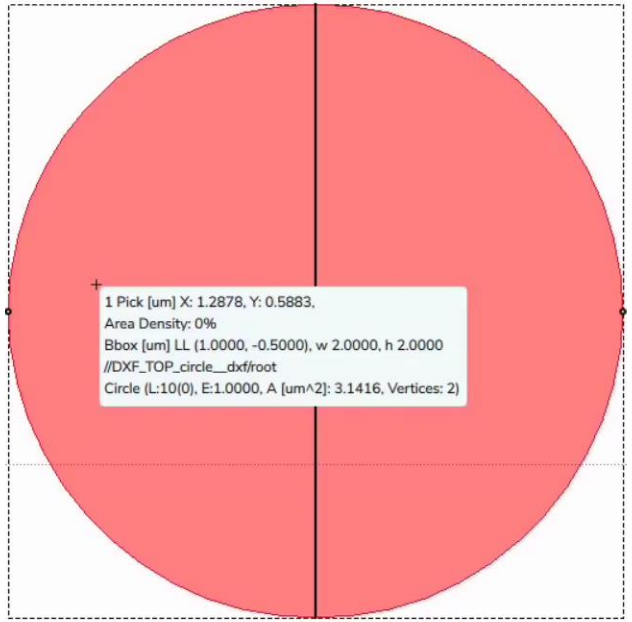


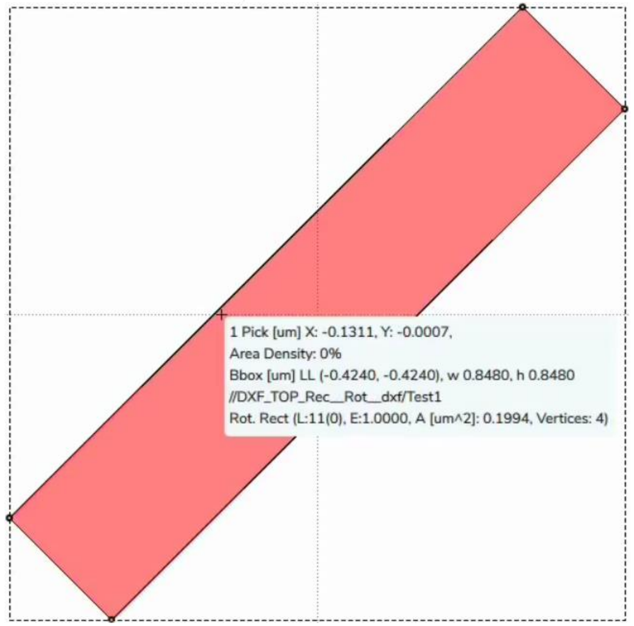


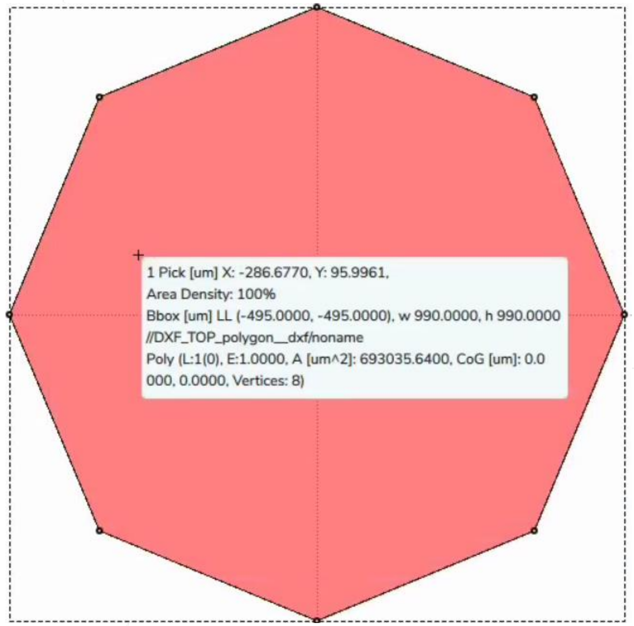
DXF Shapes

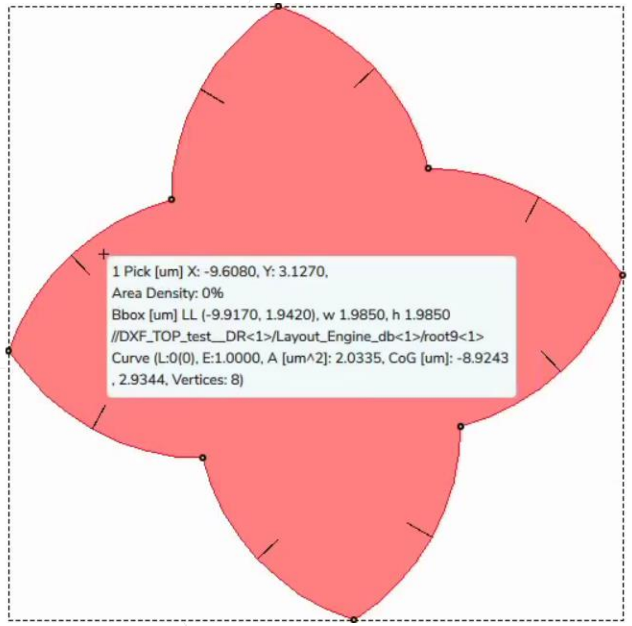
DXF format increases its import settings to detect special shapes: *Circles*, *Rings*, *Arcs*, *Ellipses*, *Rotated Rectangles*, *Parallelograms* and *Generic Curves*









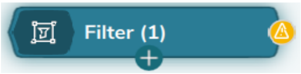


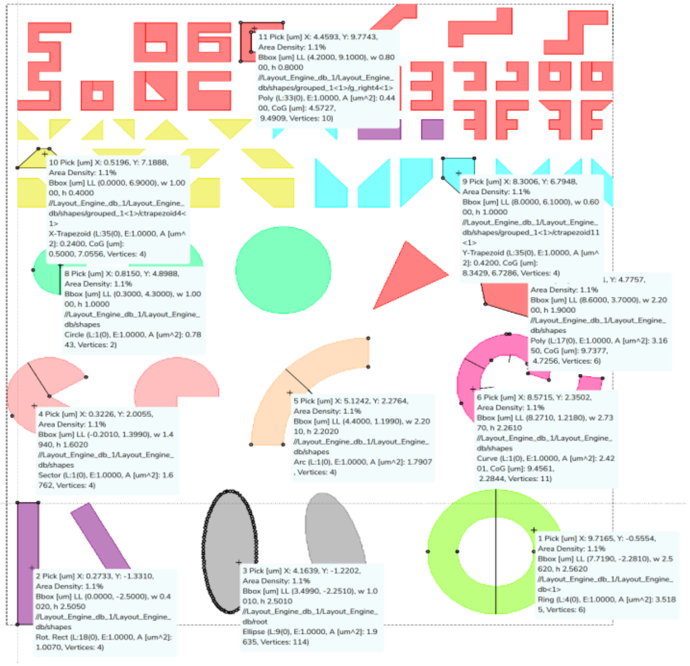
Filter module

Filter Module: Filter by PrimitiveType

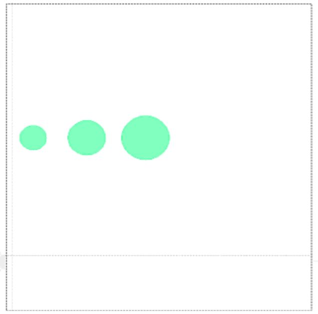
New **PrimitiveType Attribute** for the **Filter** module

- Use the Attribute **PrimitiveType** to specify the desired element type
- **Operations** to match (==) or exclude (!=) specific primitive type
- **Value** to easily choose the element type

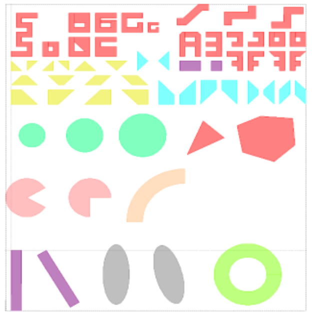




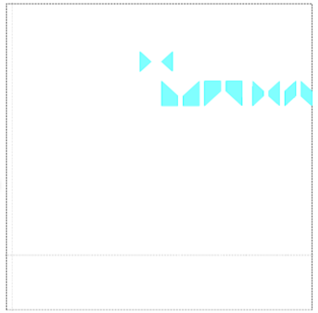
Layout (color by **Element type**)



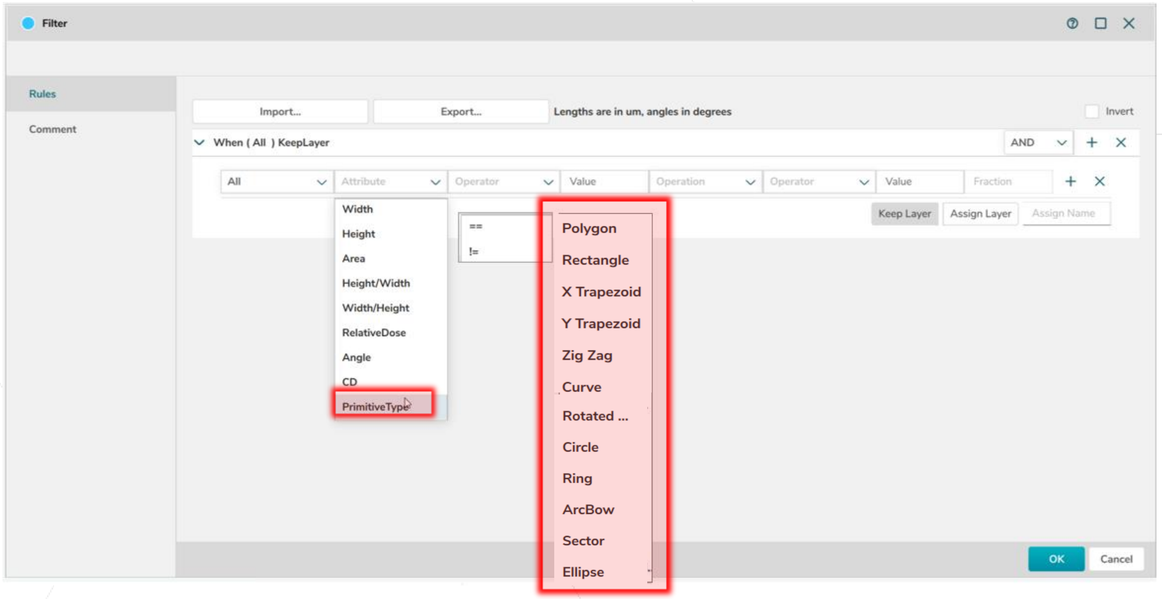
== Circle



!= Curve



== Y Trapezoid

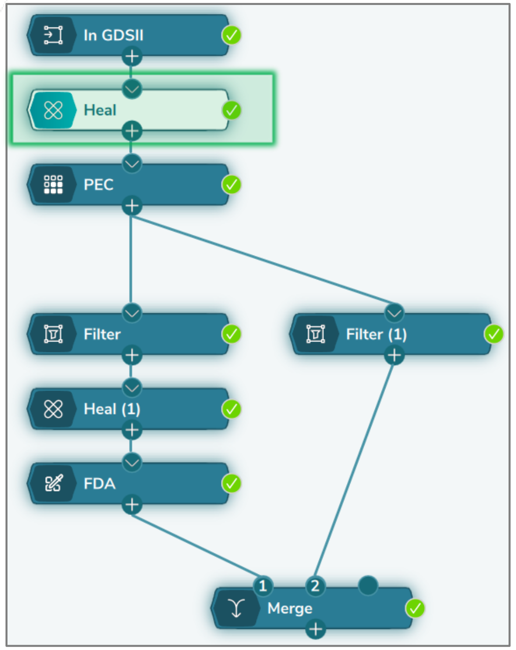


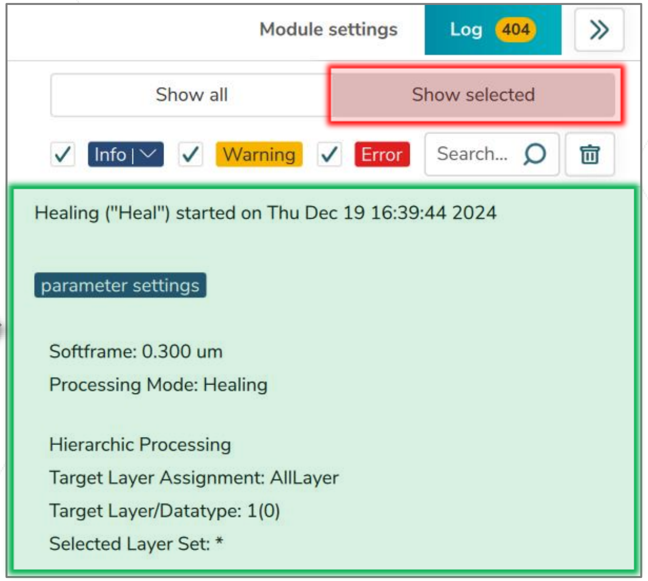
Usability

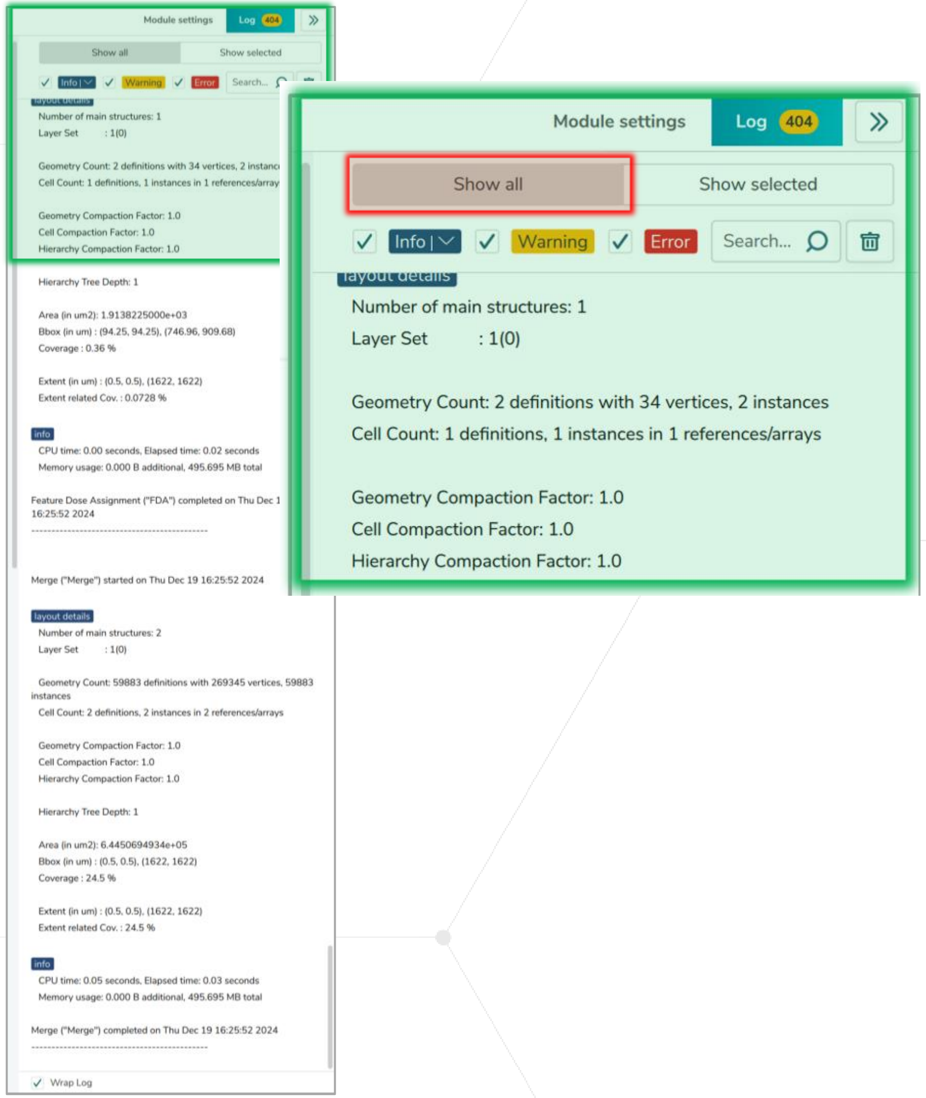
Log view

Improving **Log view**

- Selected module can be viewed separately by "**Show selected**"







„**Show selected**" option for selected module

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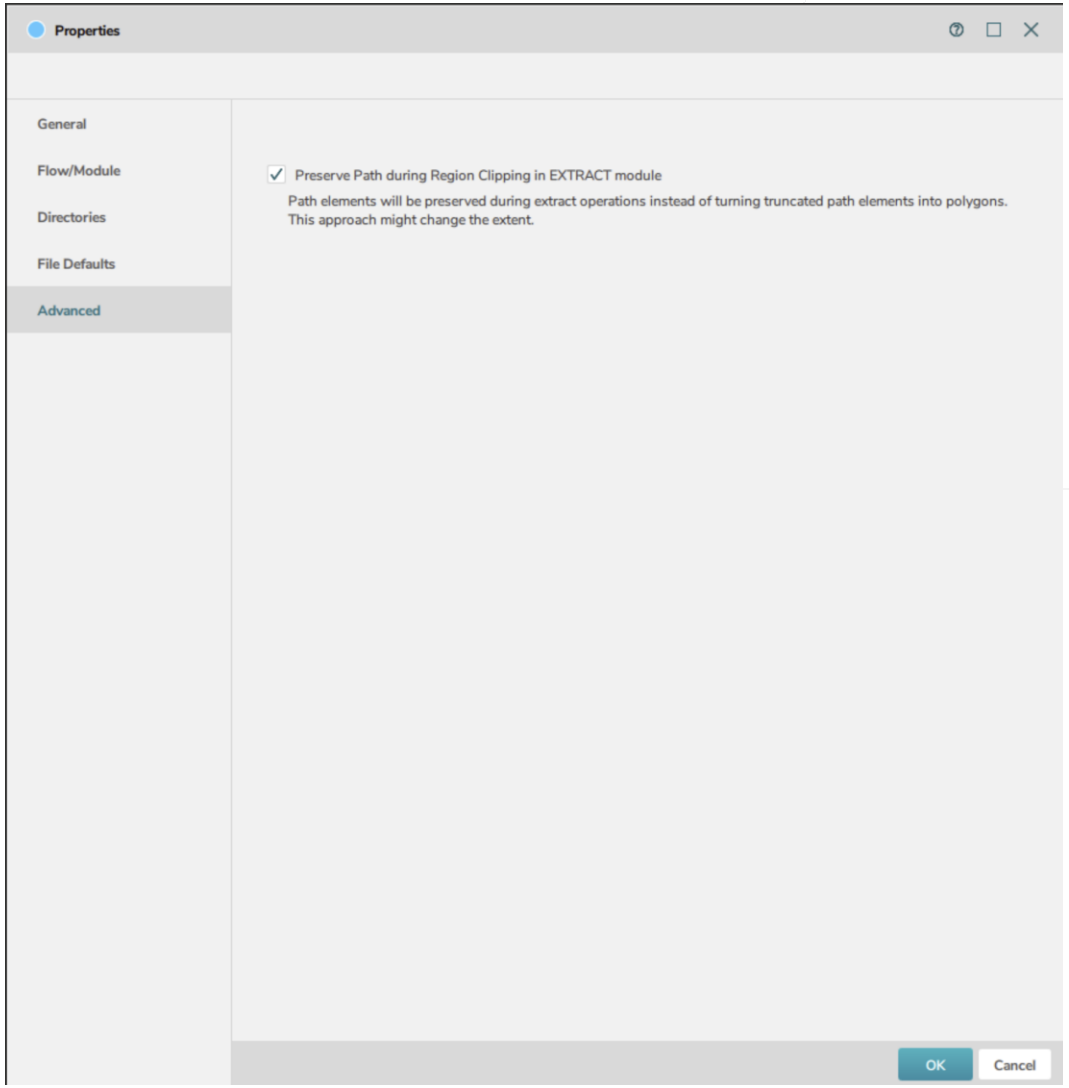
Properties dialog



A new tab has been added to the properties dialog to enable special functionalities e.g.

“Preserve path during region clipping in EXTRACT module”.

The default behaviour of BEAMER in this operation would lead to a truncation of the path and its conversion to a polygon.

With this function enabled, the path is clipped at the region boarder but persevered as a path element. This behaviour can benefit the handling on the Export on systems that address path elements different to polygons.

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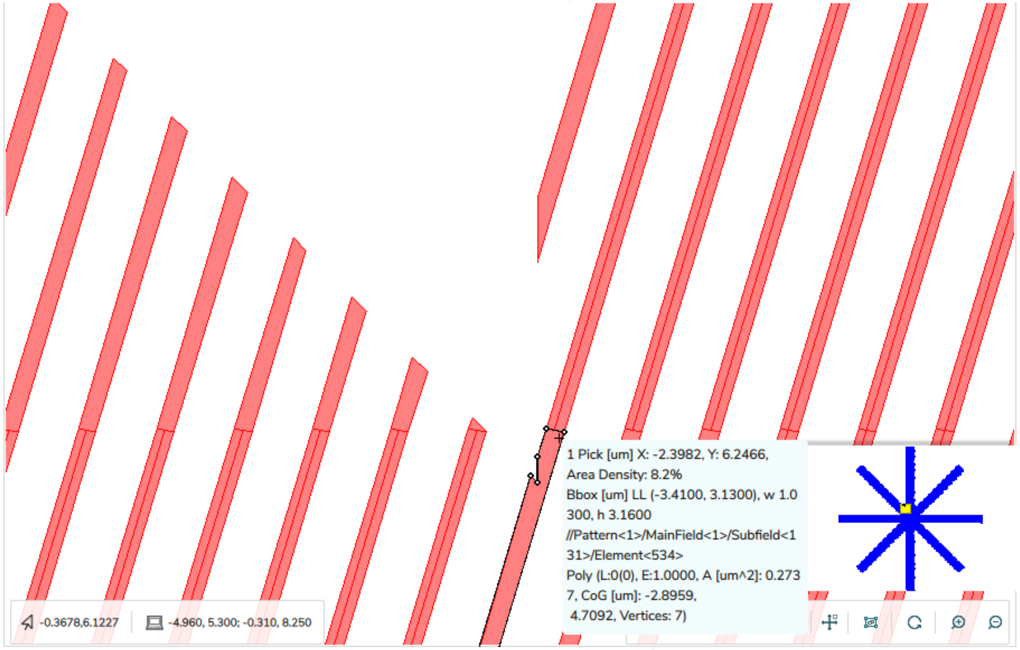
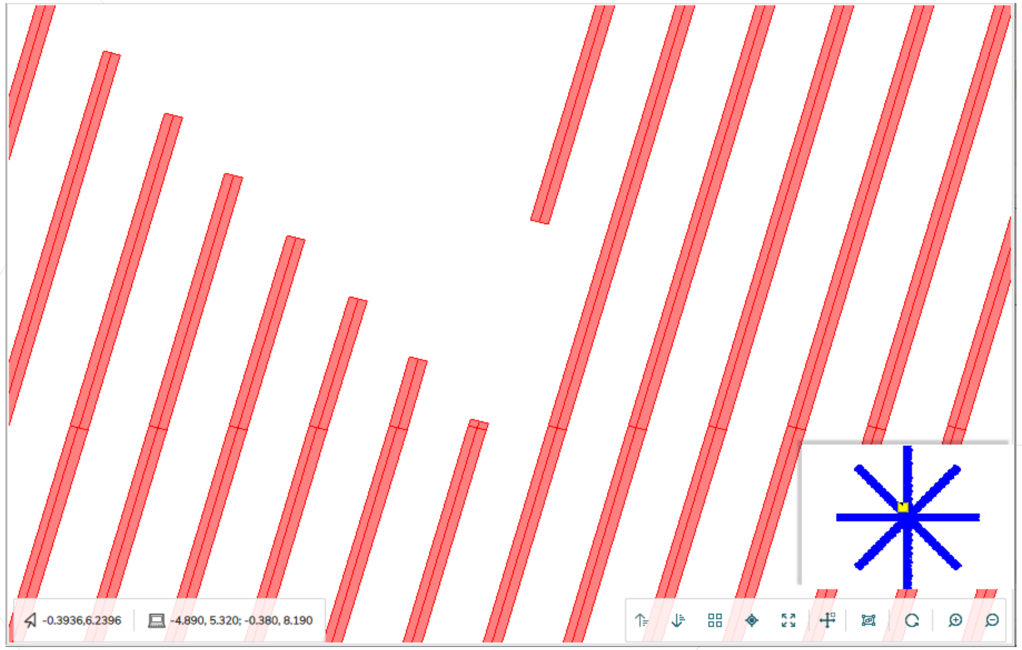
Preserve path during region clipping

Option disabled



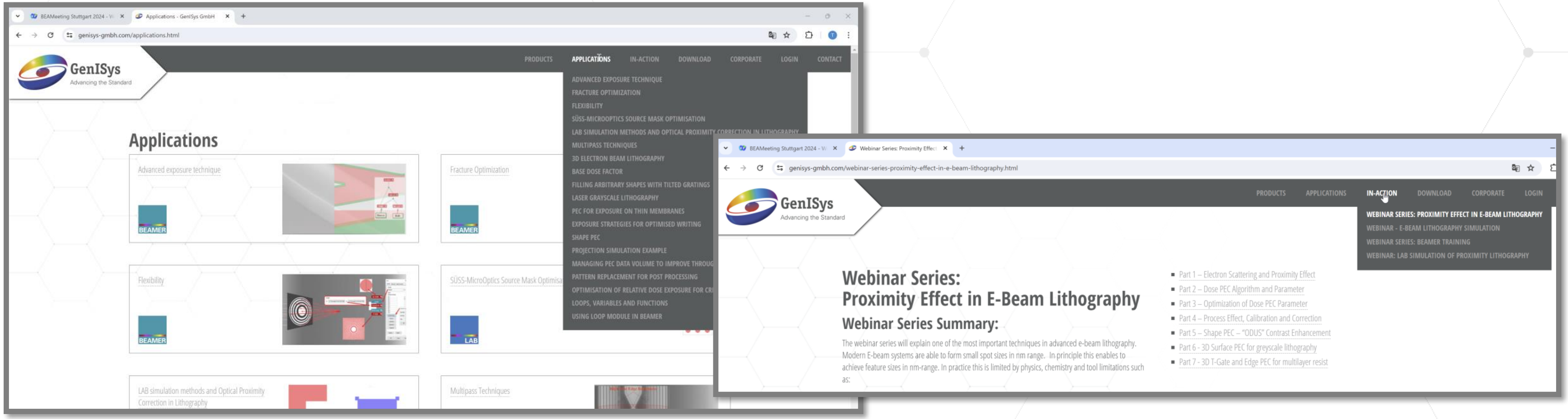
- Path elements are preserved, if not touched by extract region.
- All elements touched by the extract region are converted into polygons

Option enabled



- Path elements are preserved

BEAMER 7.4 release June 2025



Thank You!

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