BEAMER
What’s new

Advancing the Standard
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Whats's New 5.9.0

Indicator for “waiting for license”

• In previous versions of BEAMER it was not possible for the user to differentiate between a run process that takes a long computation time and module that is waiting for a license.

• In BEAMER 5.9 the module contains an indicator (...) to illustrate the waiting status of the module.
Pause and Resume

• A running flow can now be paused and resumed at a later time.
  • The paused module will also release the license.
Adjusting manual region definitions

- Modules such as FRACTURE, EXTRACT & EXPORT allow defining manual regions in a pattern.
- Previously, these regions could only be modified by modifying the region bounding boxes coordinates.
- Users can now graphically adjust the region:
  - Shift the region by holding CTRL, left-clicking the region, and dragging.
  - Stretch the edges of a region by holding CTRL, left-clicking on the border or corner of the region, and dragging.
EXTRACT shows cell selection preview

• During setup of the EXTRACT working on cell definitions or instances it is now possible to see the cell of interest also visually.

• Using the cell selection dialog opens a preview of the pattern and a list of the available cells. Selection of one cell will show the marked cell.
Multipass with absolute shifts

- Multipass export has been given a new option for the amount of field shifting.
- Prior it was working with relative numbers referencing to the size of the main field. With this release it is also possible to shift the main fields and subfields by an absolute value.
- Using the dropdowns allow to specify the method for subfield or main fields individually.
Multipass for **FieldFollowGeometry**

- The multipass option is now also available for the Field Traversal option **FieldsFollowGeometry**
  - This allows the user to use this **FieldsFollowGeometry** also for structures that are usually exposed with multiple passes to reduce the sidewall roughness or feature fidelity.
E-Beam simulation region

- The region and measurement line definition in the E-Beam simulation has been improved to improve the usability and the visibility.
- One table shows the defined regions and the second table the defined measurement lines, similar to LAB.
Python interface
• The python interface has been improved to be python version independent
Export as Python improvement

- The Export as Python has been improved to export only those parameters used by the module to the python script.

Example PEC module

- Old version = 82 parameter
- BEAMER 5.9 = 31 parameter
• Service provider, multi license and multi user facilities have the need for reporting
  • who has used which licenses / modules how long
• GenISys is using the Codemeter licensing solution
• The CodeMeter server can be configured to write appropriate log files
• The logs files are analyzed and exported to a plain text, JSON or XML file applying a command line tool
• The tool use Microsofts .NET framework, supporting Windows natively. It can also run on Linux using Mono, an open source implementation of .NET.
• Contact us for enabling the function and assistance at support@genisys-gmbh.com
Laser correction
The resist development model has been extended to a Mack 4 model.
Overdose/undersize mode

- The ShapePEC mode for laser correction has been extended to support an Overdose/Undersize mode, similar to the correction for Ebeam.
  - This mode allows the user to prepare the data for an exposure with an increased base dose.
Additional Gaussian

- The ShapePEC mode for laser correction has been extended to support an additional gaussian in the intensity distribution.
- This second gaussian can be used to take e.g. density dependent effects into account.
The RuleOPC has been extended to allow signal definitions to check e.g. distances against shapes on other not corrected layers.

- Use case: apply the rule only if layer 1 doesn’t overlap with layer 2.
• The RuleOPC has a new action “CutCorner” to allow the modification of corners, to remove 90 deg corners from designs.
ChipPlace with variables

- Within ChipPlace the input fields accept now variable parameters. This allows to utilize loops on ChipPlace and dynamically create complex pattern and labels with great ease.
Improve handling of big arrays

- The handling of big arrays in ChipPlace has been improved.
- Depending on the zoom setting, the VIEWER shows only the bounding boxes of the layouts.
- After zooming in, the VIEWER automatically switches back and shows the detailed layout.
• The shape information of the viewer have been extended.
  • Double right mouse click shows the center of gravity of the shape
Hierarchy depth viewing shortcuts

- Shortcuts for hierarchy depth +/- view added in VIEWER.
For the Navigation view, the user can now zoom in and out with the mouse wheel.
General properties
• If the parameters of any already-ran module are modified, BEAMER will warn the user that the results of that run will be lost
• Users can now disable this warning on the checkbox “Warning on Module Reset” under File->Properties
IMPORT (TXL / GDS)
For TXL and GDSII formats an option has been added to flatten the layout during IMPORT.

For some of today's application cases, e.g. meta lenses, one geometry is used but placed millions of times at different positions and rotations.

During IMPORT this creates for each shape a reference this can increase the file size and computation time significantly. We are working on an improvement of our Import and data base structure to be able to handle these files more efficiently in the future.