The Interactive Tools are a suite of applications that provide interactive GUI-based pre and post processing services to Silvaco’s TCAD simulators.

TCAD Input Deck and Runtime Environment
DeckBuild is Silvaco’s state of the art GUI platform used for all TCAD related tasks. It is an easy to use, intuitive simulator front end supporting all Silvaco simulators and tools. DeckBuild has numerous simulator-specific and general debugger style tools, such as powerful extract statements, GUI-based process file input, line-by-line runtime execution, and intuitive error messages. It contains an extensive library of hundreds of pre-run example decks which cover a wide range of technologies and materials, and rapidly allow the user to become highly productive in TCAD.

Features
- Interactive, GUI-driven development and debugging of simulation decks
- Streamline simulation flows by integrating all Silvaco simulators and TCAD visualization tools into one GUI
- Powerful extraction language capable of measuring process and device parameters like thicknesses or voltages and to create all forms of 1D curves (IdVd / IdVg.)
- Automated visualization of simulation created structures and extracted curves
- Powerful post-processing engine, which allows the production of PDF reports and movies of simulation progress
- Integrated Python-3 module to support advanced simulator control and extract mechanisms, and to implement custom GUI components
- Powerful simulation flow editor allowing to combine individual simulation decks into complex hierarchical flows
- Monitor simulation progress by browsing the structures and output created by each process step
- Includes 500 TCAD simulation examples that are categorized and indexed for quick retrieval
- Fully integrated queuing system allows to load balance simulation jobs on Oracle Grid Engine, LSF or the Silvaco built-in queue
- Integrated optimization engine to handle calibration and optimization tasks
- Supports all modern Linux and Windows platforms and works on complex IT infrastructure such as virtualized and remote environments
TCAD Visualization

TonyPlot is a powerful visualization tool for displaying 2D and 3D data generated by the Silvaco TCAD simulators and field-solver parasitic extraction tools.

Designed for intuitive interaction, TonyPlot vivid visualization modes support regions, contours, isosurfaces, rays and vectors. It provides many TCAD specific visualization functions, such as HP4154 emulation, 1D cut lines from 2D structures, animation of markers to show vector flow, integration of log or 1D data files and fully customizable TCAD specific colors and styles.

Features

• Rotation and zooming by intuitive mouse actions
• Point and click probing of points within the 3D structure
• Plot surface contours and isosurfaces for any simulated variable
• Cut-plane tool for creating 2D slices
• Supports all common 1D and 2D data views including: 1D x-y data, 2D contour data, 2D meshed data, smith charts and polar charts
• Integrated suite of probes, rulers, and other measurement tools allows detailed analysis of 1D and 2D structures
• Animated markers allow quick visualization of vector quantities within devices
• Function and macro editor allows complex functions and macros to be defined that can be visualized as normal 1D quantities, enabling calculation of M-plots for OLED devices