

Sentaurus Lithography PWA Ultra (S-Litho PWA Ultra) is a comprehensive and powerful tool for process window analysis. Lithography process engineers use it to assess and visualize critical dimension (CD) metrology data. S-Litho PWA Ultra determines key measures that characterize the performance of the lithographic process, such as process window size or exposure latitude. Multiple datasets are analyzed individually, and the overlapping (or common) process window is determined.

Moreover, S-Litho PWA Ultra supports the review of metrology data such as scanning electron microscope (SEM) images within layout context by enabling the visualization of results within Synopsys' layout viewer and editor tool, IC WorkBench and Proteus WorkBench. Measured contours can be overlaid with simulated contours and layout data to compare results. S-Litho PWA Ultra also supports the direct extraction of CD and contour information from SEM images to supplement metrology data, independent of the equipment vendor's data processing.

## Applications

S-Litho PWA Ultra is a general-purpose tool that can analyze any multidimensional matrix of observations as a function of two parameters. These observations (input data) are usually CDs of a series of features – measured or simulated – as a function of exposure dose and defocus (deviation from a nominal focus position). Other typical indicators can be sidewall angles of resist profiles or resist thickness loss. Figure 1 shows the graphical user interface. A hierarchical tree of all imported datasets all graphical/1w(oo

