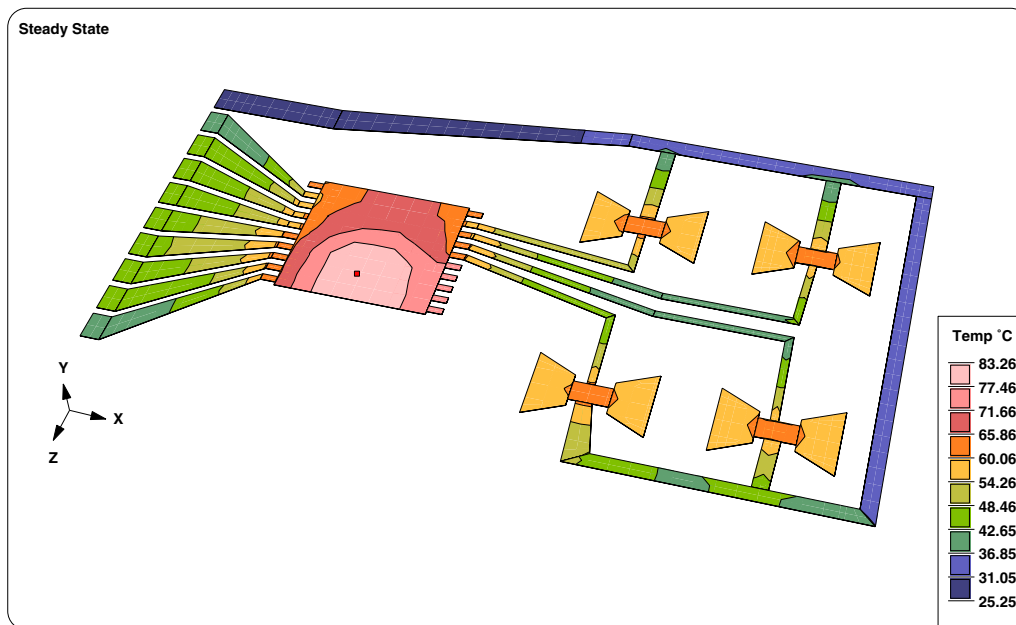


Sauna™ V4.12 New Features List



Trace by trace modeling with polygon assemblies

Polygon Assemblies

- Available for boards, plates, copper traces and pads
- Polygon assemblies are quadrilaterals with uniform thickness
- Approximate circular objects by combining polygons

Trace By Trace Modeling

- Use rectangle and polygon shapes
- No slicing of the board is required
- Stack joins are created automatically
- Multi-segment trace tool
 - User defines trace centerline, Sauna calculates all edge and corners
 - Traces are automatically terminated when a pad is encountered (start or end)
- Ideal what-if tool for defining thermal via patterns, copper pad heat sinks, self-heating analysis, etc.

Convert Planar Boards To "Full Stackup"

- Chose between 2, 4, 6 and 8 layers
- Heat sources, distributed wattage and node labels transfer to the full stackup
- Assemblies for each copper layer and each laminate layer
- Automatic labeling scheme
- Easy to specify copper weights
 - Uniform: copper weight is the same for all layers
 - Outer/inner: outer layers different from inner layers
 - Specify all
- Easy to specify laminate (dielectric) thickness
 - Typical
 - use when laminate thicknesses are unknown
 - follows industry "standards"
 - specify overall stackup thickness (0.062", 0.050", custom)
 - Outer/inner
 - Specify all
- Old methods for board stackups are still available

New Tools For Working With Full Stackups

- Copper layer report
 - Shows copper weight and coverage for all layers
 - If coverage is non-uniform, shows max/min/average
- Node by node numerical display options
 - Via density
 - Copper coverage
 - Wattage
- Pads and traces are automatically grouped into layers which can be turned on or turned off

Edit Via Properties Of Full Stackup

- Full specification of via properties
 - Diameter
 - Plating thickness
 - Density
 - Fill material
 - air, solder, epoxy, special
 - full or partial fill
- Edit any via property
 - Entire assembly
 - Node by node

Edit Other Board Stackup Properties

- Copper weight (uniform within the layer)
- Coverage (can vary on node by node basis)
- Use vias to connect to an internal layer while bypassing an intermediate layer

Layering Scheme For Dividing Model

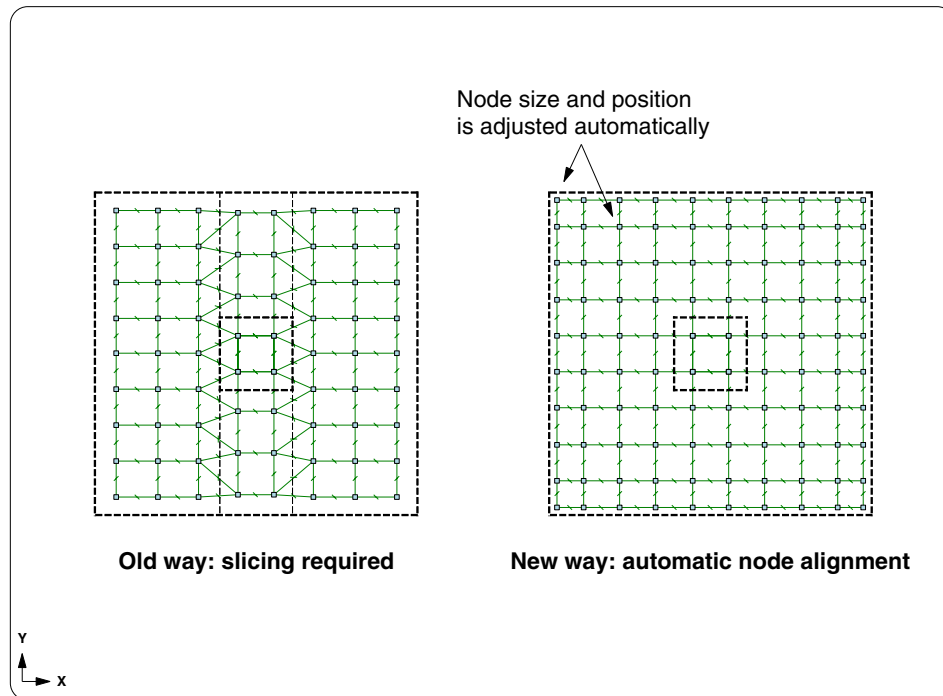
- Based on assembly label prefix
- Turn on/off a layer of traces and pads
- Turn on/off an arbitrary sub-model

Reshape Assembly Command

- Quickly convert between rectangle and polygon
- Shift 1 vertex on a group of assemblies
- Redefine all 4 vertices on an assembly or assemblies

Automatic Node Alignment For Stack Join

- Sauna automatically aligns mesh on larger assembly to match the smaller assembly
- No slicing required for simple stackups



Automatic node alignment

Relaxed Stack Join

- Node alignment is not required
- Use in non-critical areas

Smarter Footprint Heat Source

- Works with polygon assemblies
- Can straddle multiple assemblies
- Up to 22 resistor connections

Improved Surface Assembly Command

- Trap surface assembly thickness from model
- Easy to do potting and gap pads

Improved delete join

- Choose edge, stack or both
- New Group->Model option, easier than Group To 1

Other Useful Enhancements

- No limitation on number of joins per assembly
- Option to turn off edge correction factor when displaying contours

7 Apr 2011