

Oct 2004

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Radiative & Thermal Modelling

Julian Thomas

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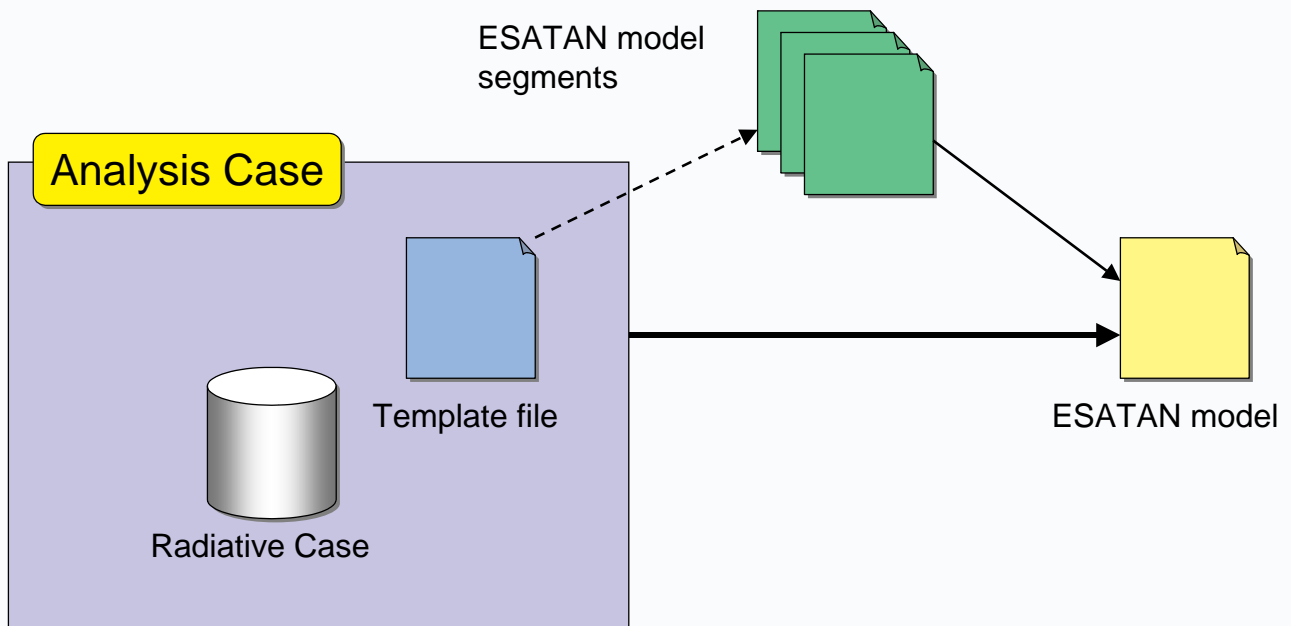
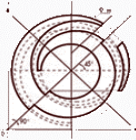
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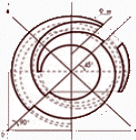
- Review of Analysis Case concept

- Step by step:
 - Statement of problem
 - Layout of model
 - Radiative Cases
 - Analysis Cases

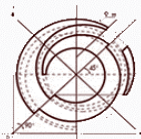
- Analysis Case Control -



- Control & Manage Multiple Cases -



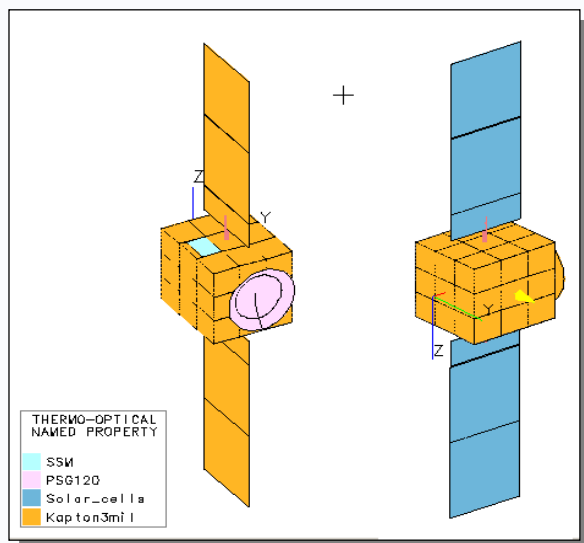
Interactive Demo



Our Example "Problem"

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GEO Sat



- 3 analysis conditions (cases) to consider:
 - Summer BOL Operating
 - Summer BOL Non-Op
 - Winter EOL Operating
- Unit mounted internally on the north panel, with an external radiator surface.

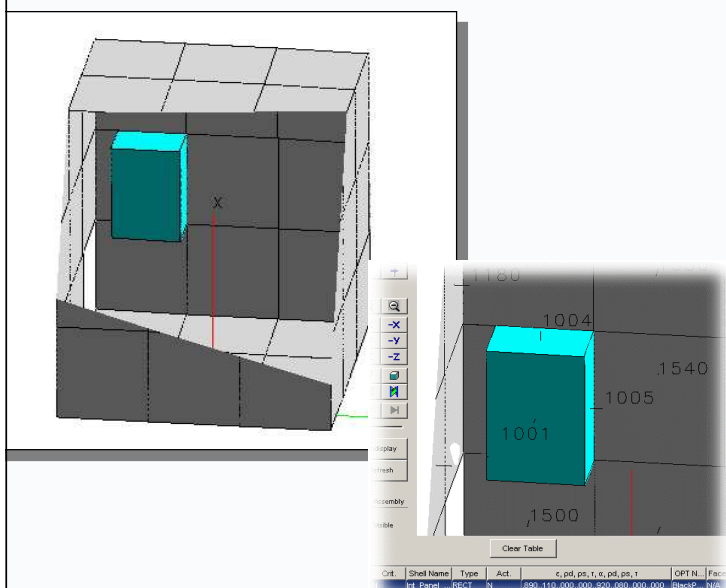
- External Geometry -



Our Example "Problem"

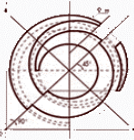
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GEO Sat



- 3 analysis conditions (cases) to consider:
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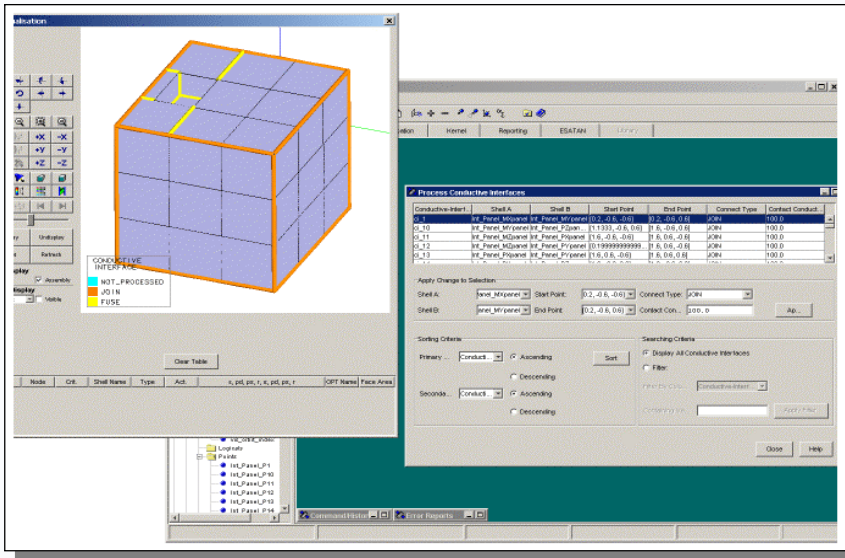
- Internal Geometry -



Our Example "Problem"

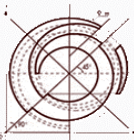


GEO Sat

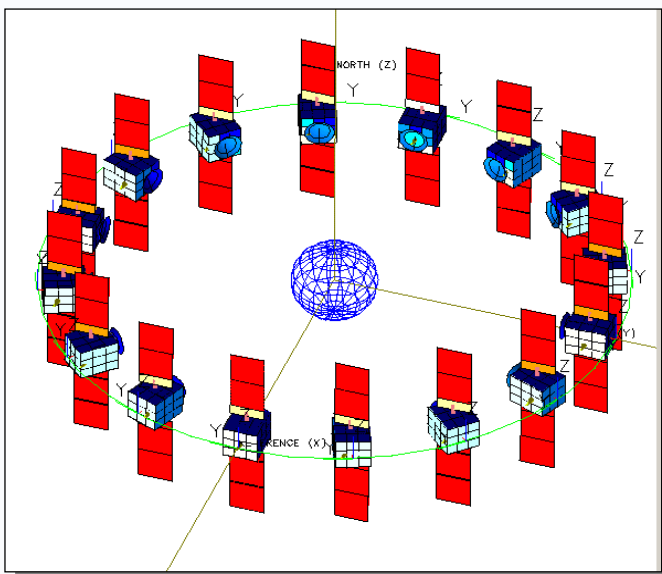


- ACG used to find and calculate links.
- New general ACG solver to be released in 2005.

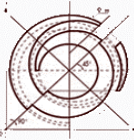
- Conductor Generation -



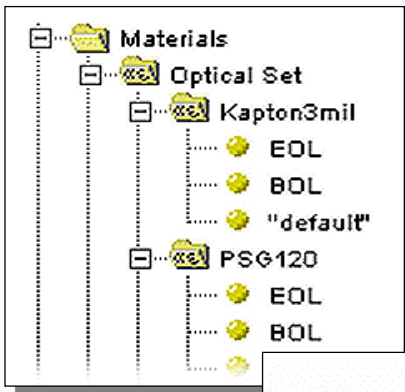
Radiative Cases



- Need to consider 2 Radiative Cases:
 - Summer BOL
 - Winter EOL
- Vary:
 - Earth-Sun distance
 - Solar Declination
 - Optical Properties



Optical Property Environment



Selected in Radiative Case:

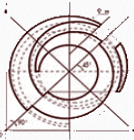
initial angular offset:

Property Environment

Property Environment **BOL**

Buttons: Cancel, <Prev, Next>, Apply & Close, Apply & Display, Execute, Help

- Introduced with v5.6 -

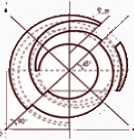


Case Management

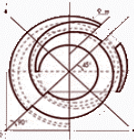
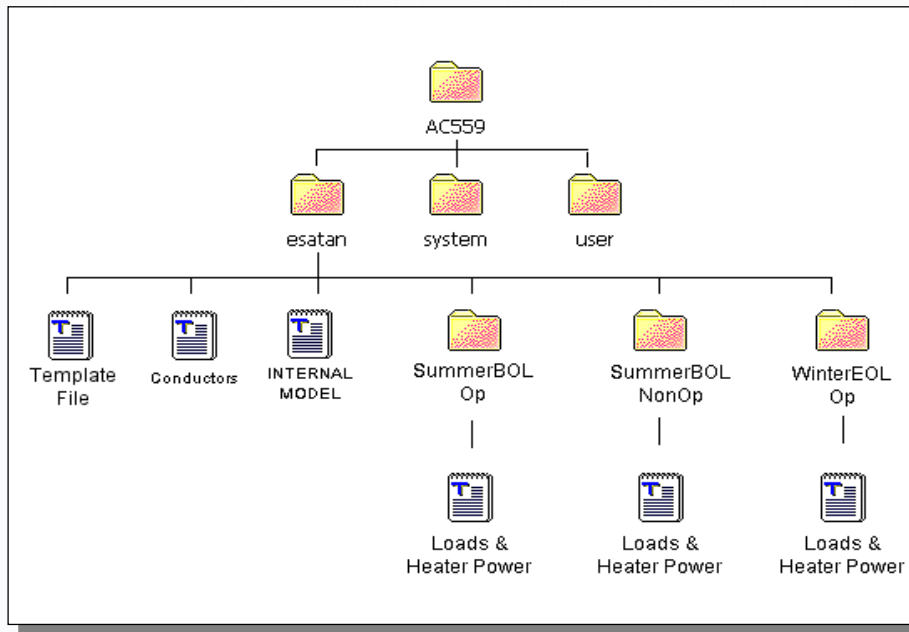


Analysis Cases	Template file	Radiative Cases	ESATAN segments	ESATAN models
Winter EOL Op		Winter EOL	Non-Geom Nodes & Conductors, etc.	Unit /heater Power
Summer BOL Op		Summer BOL		
Summer BOL NonOp				

- Control & Manage Multiple Cases -



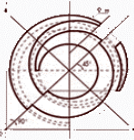
File Organisation



Demo

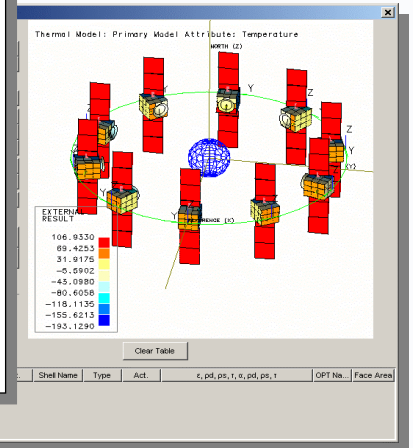
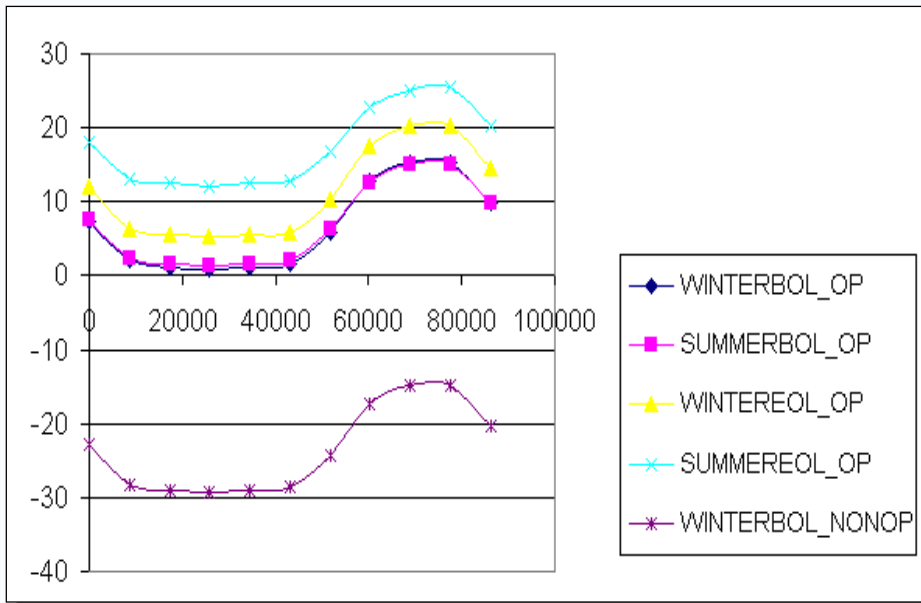


Interactive Demo



And the Results...

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