

Appendix P

TCDT New features

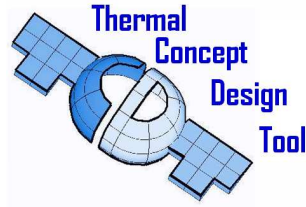
Matteo Gorlani
(Blue Engineering, Italy)

Harrie Rooijackers
(ESA/ESTEC, The Netherlands)

Abstract

The new features that are currently under development for the TCDT will be presented.

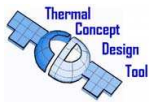
Thermal Concept Design Tool Distribution & Maintenance



Matteo Gorlani
Blue Engineering, Torino, Italy

Harrie Rooijackers
European Space Agency, Noordwijk, The Netherlands

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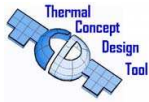


Overview

- Background
- TCDT Users
- 1° TCDT User Survey
- TCDT Maintenance Activity
- TCDT Improvements

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Background

1° YEAR OF DISTRIBUTION & MAINTENANCE STARTED NOVEMBER 2007

- TCDT is distributed FREE of CHARGE to the European Thermal Community
- TCDT web pages available for download, PR, FR
- TCDT is regularly maintained by BLUE
- Small developments are regularly implemented to improve operability
- TCDT version 1.2.3 will be available at the end of 2008

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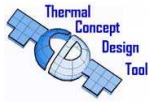
TCDT Users (1/2)

SOME NUMBERS

- | | |
|---------------------------------|----|
| • Number of web site account | 35 |
| • Number of requests of account | 35 |
| • Number of rejected requests | 0 |
| • Number of released licenses | 23 |

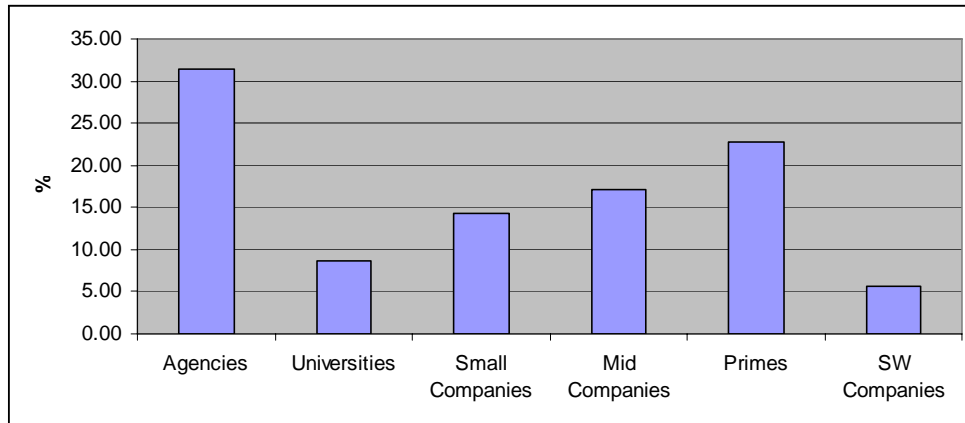
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TCDT Users (2/2)

TYPE OF COMPANIES



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1° TCDT User Survey (1/2)

USER REQUEST FOR ENHANCEMENTS

GEOMETRY DEFINITION & ANALYSIS

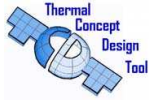
- Allow the use of formulas in Gnodes sheet
- Simplify geometric transformations
- Account for lateral and perpendicular conductance for high primitive

CONDUCTORS SHEET

- Suppress conductive couplings automatically when you suppress a node or a primitive.

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1° TCDT User Survey (2/2)

USER REQUEST FOR ENHANCEMENTS

ORBIT VIEWER

- Show S/C axis and/or geometry on the orbit

3D VIEWER

- Have the overall characteristics of one face by clicking on it

SOLVERS

- Provide the TCDT of internal solvers

DBs

- Introduce internal DBs (e.g. materials)

RADIATOR SIZING

- Allow several virtual equipments on 1 panel
- Be able to treat several radiator primitives in the same time

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TCDT Maintenance Activity (1/2)

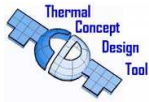
BUGS CORRECTION

CRASH AFTER A SEQUENCE OF COMMANDS

- Error FATAL: necessary to stop Excel application
- Temporary workaround: open the 3DViewer by pushing the "Display 3D" button, before pushing the "Modify" button.
- Solution: It will be corrected in the next TCDT version

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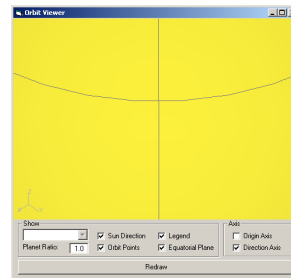
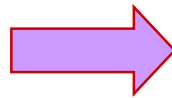
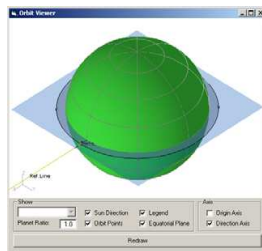


TCDT Maintenance Activity (2/2)

BUGS CORRECTION

ORBIT VIEWER

- Malfunction in changing from Planet-centred to Sun-centred
- Error MINOR



- Solution: It will be corrected in the next TCDT version

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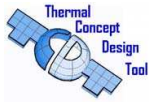
TCDT Improvements (1/5)

ENHANCEMENT IN GMM DEFINITION

- Possibility To Use Formulas In Gnodes
- Improved Esarad Files Readability

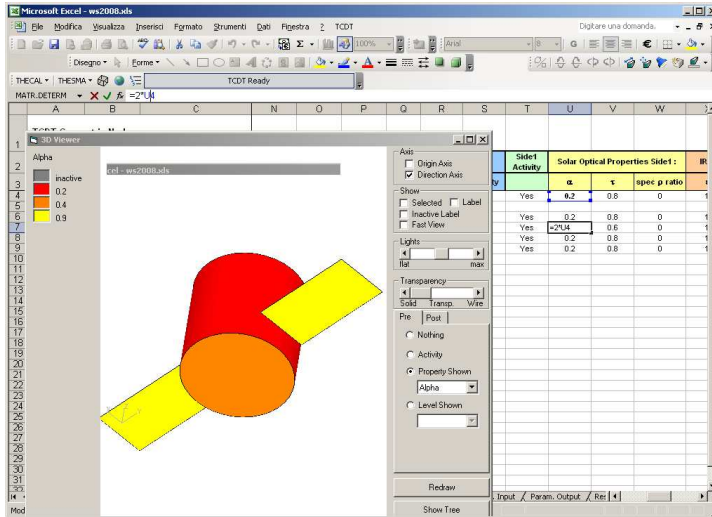
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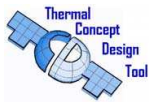
TCDT Improvements (2/5)

POSSIBILITY TO USE FORMULAS IN GNODES



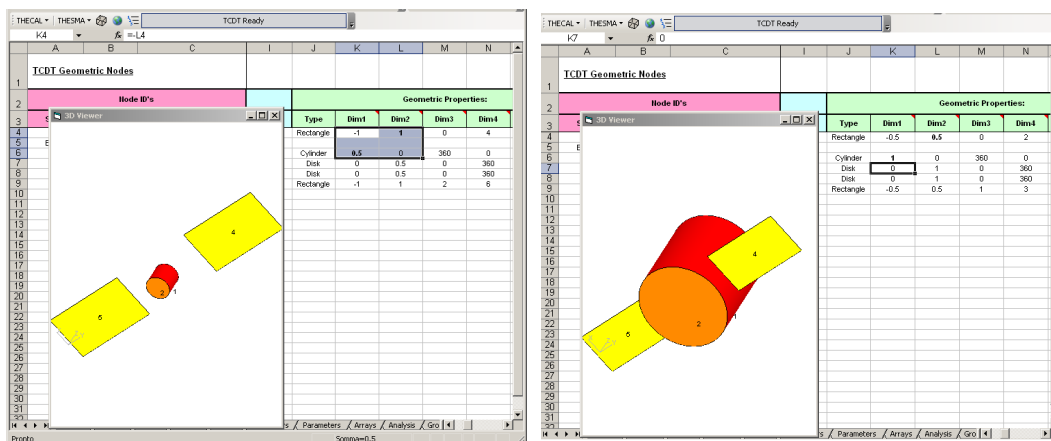
Parametrisation of Optical Properties

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TCDT Improvements (3/5)

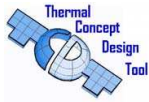
POSSIBILITY TO USE FORMULAS IN GNODES



Parametrisation of Geometry

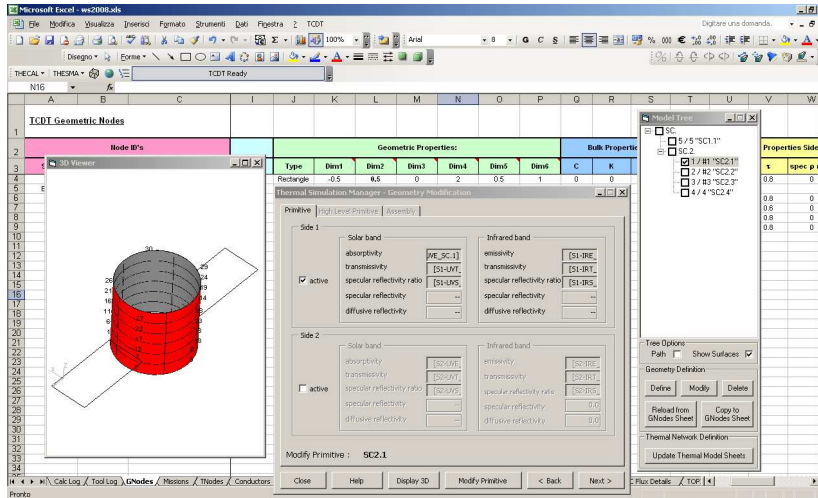
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TCDT Improvements (4/5)

POSSIBILITY TO USE FORMULAS IN GNODES



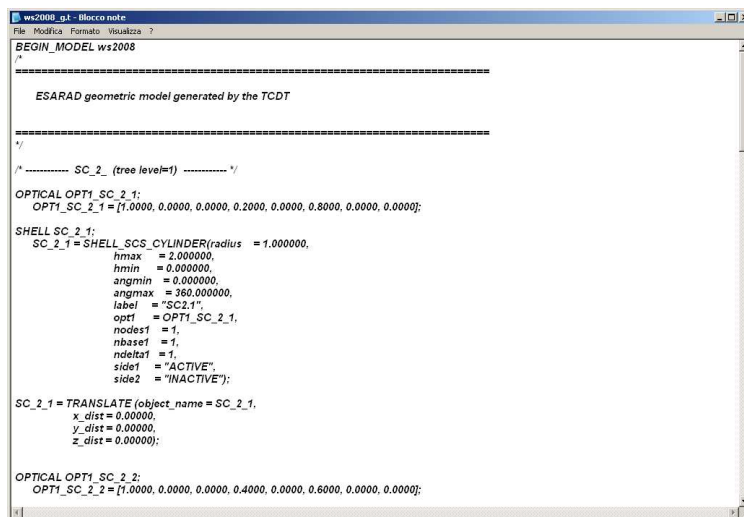
Full compatibility with TCDT meshing functionality

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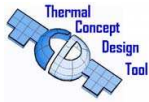
TCDT Improvements (5/5)

IMPROVED ESARAD FILES READABILITY



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TCDT Team

DISTRIBUTION & MAINTENANCE

BLUE ENGINEERING S.R.L.

Matteo Gorlani - Project Manager
m.gorlani@blue-group.it
 Andrea Tosetto - Software Development
a.tosetto@blue-group.it
 Support
tcdtsw@blue-group.it

Blue Group - Engineering & Design
 WEB: <http://www.blue-group.it>

ESA - ESTEC

Dr. Olivier Pin - Head of Thermal Analysis
 and Verification Section
olivier.pin@esa.int
 Dr. Harrie Rooijackers - Project Manager
harrie.rooijackers@esa.int

ESTEC-D/TEC-MCV
 WEB: <http://www.esa.int>

WEB: www.blue-group.it/TCDT
EMAIL: tcdtsw@blue-group.it

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