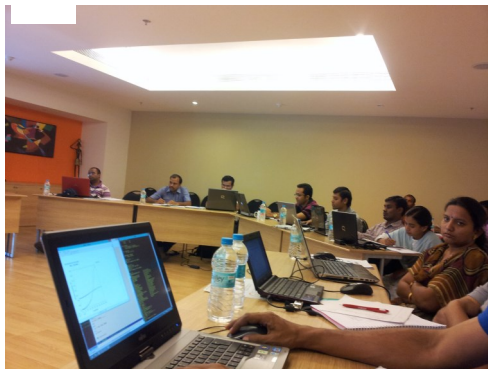


THERMO-CALC SOFTWARE WORKSHOP

JOINTLY ORGANIZED BY
NIT TRICHI,
DEPARTMENT OF
METALLURGICAL AND
MATERIALS
ENGINEERING AND
BHANU SCIENTIFIC
SYSTEMS PVT LTD



Bhanu Scientific Systems Pvt Ltd



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Thermo-
Calc
software
Workshop



Thermo-Calc software AB,

NIT TRICHI

23-25 February 2016,
Tiruchurapalli

09849300321

Thermo-Calc software

23-25 February 2015

Thermo-Calc software 2015b

DICTRA 2015b

TC-Prisma 2015b

The workshop will be covered by
Dr. Ake Jansson from Thermo-Calc
software AB, Stockholm, Sweden.

The participant should bring their
own laptops.

Registration can be done by send-
ing e-mail to baburi80@yahoo.com



REGISTRATION

Participants who would like to partici-
pate in the workshop can e-mail and
register their names.

Registration Fee

R&D Participants: 30000Rs/-

Academic Participants 15000Rs/-

Lunch and snacks will be provided for
all participants.

Everyone should bring their laptops.

- Thermo-Calc 2015b Basic and advanced roundup
- DICTRA Software, Databases and Applications
- One phase simulation
- Moving phase simulations.
- dispersed system simulation
- Inter diffusion in compound material
- Homogenisation Model
- Exercise and troubleshooting.
- TC-Prisma Basics
- Theoretical Background and numerical models
- Applications and challenges

Thermo-Calc Software

Thermodynamic and Diffusion Simulation Software

Thermo-Calc

Powerful software for thermodynamic calculations for multicomponent systems

- ✓ Calculating stable and meta-stable phase equilibria
- ✓ Predicting amounts of phases and their compositions
- ✓ Liquidus and solidus temperatures, Scheil solidification
- ✓ Thermochemical data such as enthalpies, heat capacity and activities
- ✓ Predicting driving forces and transformation temperatures
- ✓ Phase diagrams for multicomponent multiphase systems
- ✓ Databases for Fe-, Ni-, Al-, Ti-, Mg- based alloys, solders, slags and more...

DICTRA

Unique software for the simulation of diffusion controlled transformations in multi-component systems

- ✓ Homogenization
- ✓ Diffusion controlled phase transformation kinetics
- ✓ Carburizing & Decarburizing
- ✓ Nitriding and carbonitriding
- ✓ Microsegregation during solidification
- ✓ Coarsening / Dissolution of precipitates
- ✓ Databases for Fe-, Ni-, Al- and Ti-based alloys

TC-PRISMA

Software for simulating precipitation kinetics in multicomponent systems

- ✓ Concurrent nucleation, growth/dissolution, and coarsening of precipitates
- ✓ Temporal evolution of particle size distribution
- ✓ Average particle radius and number density
- ✓ Volume fraction and composition of precipitate
- ✓ Nucleation rate and coarsening rate
- ✓ Time-Temperature-Precipitation (TTP) diagram
- ✓ Estimation of multi-component interfacial energy
- ✓ Thermodynamic & kinetic data from Thermo-Calc & DICTRA databases

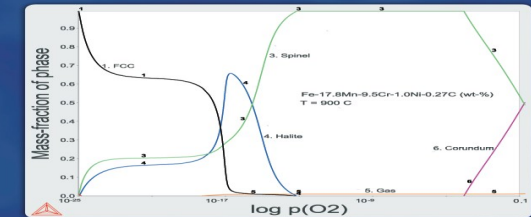
TC Programming Interfaces

Couple your own in-house written software to Thermo-Calc and utilize the thermodynamic and mobility databases

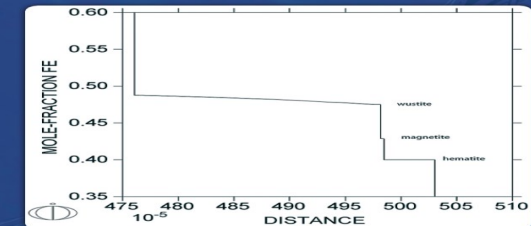
TQ-Interface: Fortran library suitable for applications requiring heavy thermodynamic calculations, i.e. when computational speed is an issue.

TC-API: C library that is suitable for interaction also with applications written in other programming languages such as, e.g. C++, Java and Microsoft Visual Basic.

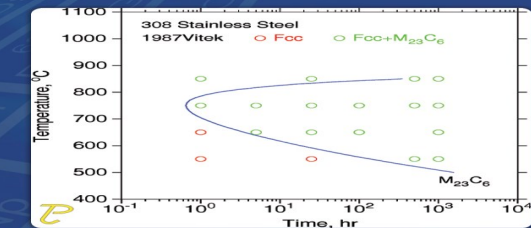
TC-Toolbox for MATLAB: For accessing Thermo-Calc from Matlab™



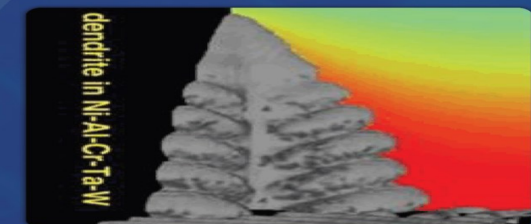
Oxide scale formation on a steel



DICTRA simulation of oxide formations



TC-PRISMA calculated TTP curve



Calculated using MICRESS® in conjunction with the TQ-Interface

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