

Thermo-Calc Newsletter - Number 22, August 1998

We would like to start this issue of Thermo-Calc Newsletter by expressing sincere appreciation to our clients, agents and partners who helped us in expanding the Thermo-Calc and DICTRA application fields, improving our performance of technical supporting and consulting services, and conducting various R&D projects on future software and databases, since Thermo-Calc Software was created last year.

New Versions of the Thermo-Calc and DICTRA Software

The Thermo-Calc Version M has been on beta-testing since June, and is now scheduled for formal release later this autumn. A new version of the Users Guide and Examples Book will come later this year, initially some supplements to the current manual will be provided. The new features in this release are described in the Appendix of this issue. A summary of the major developments and additional features is given below:

- New module, TERNARY, for automatic calculation of ternary phase diagrams;
- New command DEFINE-DIAGRAM for calculating multicomponent phase diagrams;
- Improved ADD-INITIAL command;
- New OPTION to map monovariant lines with a given phase;
- Significantly improved mapping of binary and ternary diagrams with "tie-lines in the plane";
- Two new commands, ADD-LABEL and MODIFY-LABEL, for identifying regions in phase diagrams;
- New graphic module for WindowsNT/95/98 environment;
- New technique, SET-ALTERNATE in the PARROT module, for starting assessments without having to guess initial parameter values;
- Modified command CALCULATE-ALL with more information;
- New commands, LABEL-DATA and COMMENT, for easier identifying equilibria;
- Several database directory files;
- Simplified database management;
- Composition-dependent parameters for volume;
- Revised tabulation module.

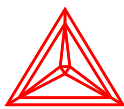
The DICTRA Version is being beta tested, and will be formally released slightly after Thermo-Calc Version M. The new features will be announced later on.

New Platform for the Thermo-Calc Software

The Thermo-Calc software and databases can now be used on Macintosh computer with an operation system of 8.0 or higher. However, we do not encourage our clients to switch Thermo-Calc installations from other platforms to Macintosh, due to that the support for this version is and will be rather limited.

New Versions of the Thermo-Calc Interface

The third-party application programming interface of Thermo-Calc, the TQ Interface, has been used by many industrial companies, institutes and universities on purposes to provide a powerful thermodynamic engine to other individual or packed software in calculating various material properties and in simulating complicated material processes. The TQ Interface has been under further development through several cooperation channels, and updated version will be available in the Thermo-Calc Version M.



The Windows Interface of Thermo-Calc, the ETTAN software, has been released in its second version, through the collaboration project between the Foundation of Computational Thermodynamics, Sweden, and ThermoTech Ltd., UK. For upgrade from previous version, ETTAN1, one could contact with Dr. Nigel Saunders at ThermoTech Ltd.

New and Updated Thermo-Calc and DICTRA Databases

TCAB has been actively devoted to further develop thermodynamic and kinetic databases. Two new databases and two updated ones will be released in the 3rd and 4th quarters of this year:

- TC-AL, a new aluminium alloys database, has been developed under collaboration between Chart Associates, UK, and TCAB, and will be released in this autumn.
- TCFE, the KTH-MSE steels/alloys database, has been under updating, and will probably be released by the end of this year;
- TC-AQ, a large-scale of aqueous solution database has been accomplished, and will probably be released by the end of this year;
- MOB2, a new generation of the MOB Mobility Database, has been established, covering more elements and more phases, and based on more assessment work. It will be released in the DICTRA Version 20, addition to the four existing mobility databases, MOB, FRID, OIKA and BISH. TCAB is planning to further develop more small-scale mobility databases for specific materials (such as Al-alloys, Ni-alloys, Mg-Alloys, Cu-Alloys, Ti-Alloys, etc.).

Updated TC4A, the Free Academic Demo Version

The current WindowsNT/95/98 version of TC4A (Thermo-Calc For Academic) has been distributed freely to university professors, lecturers and students in the last several months, with a very good feedback which encourages us to further develop this special version. Although it has a limitation of maximum 4 elements (for alloys only 3), it can be used for teaching Thermodynamics and Materials Sciences, and for some university research activities on equilibrium calculations and assessments with no external funding. Some small-scale free databases are distributed together with the software. University usages can be done under a bonded TC4A Software License Agreement.

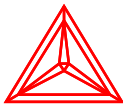
The new version of TC4A will contain the new features of the Thermo-Calc Version M, and be supplemented with a selected set of examples and a short User Guide. The full User Guide is provided as on-line help but the printed version must be purchased separately. Platforms other than WindowsNT/95/98 (e.g., various UNIX and LINUX) will also be able to run the new TC4A version.

Development of the API/GUI of Thermo-Calc Software

Both the API (Application Programming Interface) and GUI (Graphic User Interface) of Thermo-Calc Software have been under crash development. Resulted from the continuous efforts on the API/GUI projects by the Foundation and its partners through the CAMPADA project in the past years, and our new development project within TCAB, we are close to the final stage of implementation. The beta-testing version of a complete GUI version of the Thermo-Calc software/databases package is planned to be available later this year.

New TC and DICTRA Courses

Some TC and DICTRA courses will be held at



KTH, or arranged by our agents or special partners, as listed below:

- Sept. 23-25, 1998, TC Basic & Advanced Course (2+1 days) at KTH;
- Sept. 29-Oct 1, 1998, DICTRA Course (3 days) at KTH;
- Jan 1999, TC Basic & Advanced Course (2+1 days) at KTH;
- Jan 1999, DICTRA Course (3 days) at KTH;

Additionally, some TC and DICTRA courses will be arranged elsewhere by TCAB's local agents: Mr. Kiyoshi Hashimoto (fax: +81 3 5634 7338) in CRC Research Inst., Tokyo, Japan; Mr. Ron Shell (fax: +1 412 833 4580) in AEA Technology, Pittsburgh, USA; Prof. Weijing Zhang (fax: +86 10 2017283) in Univ. of Sci & Tech. Beijing, China.

For further information please contact us or the organizers directly.

Revising Various License Agreements

For those customers still holding various Thermo-Calc or DICTRA contracts with the Division of Computational Thermodynamics, Department of Materials Science and Engineering, KTH, new Software License Agreements and Site License Agreements must be signed with TCAB on behalf of the Foundation of Computational Thermodynamics, and new Maintenance and Support Contracts must be signed with TCAB (except for those who have signed such contracts with TCAB's local agents). TCAB will be responsible for coordinating such revisions.

The Year 2000 Issue

The year 2000 is approaching and there is great concern if particular software may fail operation after this date. The Thermo-Calc or DICTRA software does not require any date since it does not look for any date, so there is no reason to believe that the program should not be functional after this date. It has been tested on a computer with the date set after year 2000 and there was no problem. However, other parts of client's computer may fail due to the centennial change and this may also cause Thermo-Calc or DICTRA to fail.

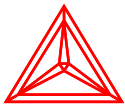
If one has a maintenance agreement for Thermo-Calc and DICTRA guaranteed by TCAB then TCAB will make all reasonable efforts to ensure that Thermo-Calc and DICTRA will work also after year 2000. If one has no maintenance TCAB will provide some assistance only if the client can show that all other parts of client's computer works properly except the Thermo-Calc and DICTRA software.

Thermo-Calc Day 98' held in Tokyo, April, 1998

During the visit of Bo Sundman in Japan, TCAB's agent, CRC Research Institute, Inc., organized a "Thermo-Calc Day 98'" in the Swedish Embassy in Tokyo. About 60 people attended the meeting, with half from industry, half prospective customers. Sundman presented the applications of Thermo-Calc and DICTRA, and the current status of our R&D activities.

Co-sponsorship in CALPHAD XXVII and Thermo-Calc Forum held in Beijing, May, 1998

Both TCAB and its agent CRC Research Institute, Inc. had enjoyed the co-sponsorship for the CALPHAD XXVII meeting in Beijing during May 17 to 22, 1998. On May 23 we organized a Thermo-Calc Forum in Beijing, invited about 30 representatives



from Chinese universities and institutes to discuss the applicational potentials of Thermo-Calc and DICTRA in various R&D of materials science and engineering, as well in other fields. Afterwards some Chinese companies and universities were visited.

In order to provide our rapidly-increasing customers with high-quality of software/databases products and supporting/consulting services, TCAB will continue all its efforts in further developing the Thermo-Calc, DICTRA and related databases, and enhancing our partnerships with our existing and prospective customers and our agents all over the world.

Bo Sundman Pingfang Shi

Chairman of TCAB Board MD of TCAB