

New software features of DLTS

In the following only the main new features of the new software version in comparison to the previous version will be listed. A number in brackets denotes the chapter in the Software Manual. Only bugfix versions will not be taken into account.

Version 4.1, 2014-08-15

A) Measurement:

- Improvement of polarity and bias search (2.1.1.3)
- Check recovery/pulse of transient (3.2.1.6)
- Saving of all 4 C-U transients (6.2.1.2.4)

B) Data, plot, evaluation:

- Enlarged check of recovery (3.4.4.5.2)
- Extended check of stability (3.4.4.5.3)
- List of important measure data (3.4.3)
- Improved delete data function (2.6.3, 3.4.2.3)
- New navigating key (5.1.7.1)
- Template for new text in presentation plot (5.2.7.1)
- Changing all symbols of a layer (5.2.3.1)
- Relative symbol scale in presentation plot (5.2.3.4)
- Create 3. plot layer by array difference of layer 1 and 2 (5.2.2)
- Mapping plots with manual y-range for colors
- Default material parameters for InGaAs, AlInN, InGaZnO, CdTe

C) Documentation:

- New and enhanced chapters of Software Manual, see brackets
- List/Edit data programs (5.4)
- Invalid data points (3.4.6.4)
- New structure of Installation Manual

D) Others:

- All known bugs are fixed
- Easier personalization (1.2.4, 2.3.4)
- Scalable buttons of toolbar (2.3.1)
- Prepared for high resolution screens (2.3.1)
- Overwrite files with keeping data (2.2)
- Updating without administrator rights (I5.1)
- Install, Set_Conf, Set_Reg programs improved
- Easier installation of portable lite program (I5.3, I1.2)
- Starting Dlts tools by a desktop icon (I2.3)

Version 4.0, 2014-01-30

A) Measurement:

- Improvement of period scan, takes the phase delay into account (3.3.1.2, 3.3.4.1)
- Special period scan mode without averaging and with calibration (3.3.1.2)
- 512 internal transient points (3.4.4.7)
- Additional internal transient points (3.4.4.7)
- Saving of background points of DC measurement (3.4.4.7, 3.3.4.2)
- Supports Boonton 7200
- Conductance G/V measurements (3.1.1.4, 3.4.1.6, 3.5.1.1)
- Automatic temperature variation in static module (3.1.1.5)
- Range information during measurement (1.3.7, 2.1.1)

B) Data, plot, evaluation:

- Enhanced oxide states tempscan and isothermal evaluation (6.3.6.1, 6.3.6.3)
- Auto modes for sigma at Nss in maximum analysis (6.3.4.4.2)
- Special evaluations for sigma at oxide states (6.3.6.2)
- New calculation of internal transients and filter for HERA transients (3.3.4.5)
- Spectrum for internal transients (3.4.4.7)
- Special plot check period scan (3.3.4.3)
- Delete period scan data by T_w/t_0 (3.3.2.2)
- Auto normalization of user correlation functions (3.4.6.3)
- Check of recovery time (3.4.4.5.2)
- Enhanced transient simulation (2.4.2.4)
- Calculations of serial capacitance, resistance and quality (3.1.4.2)
- Plots and evaluations for G/V curves (3.1.5.2)
- Conductance evaluation of equilibrium files (4.4.5.1)
- Applying of Read/View plot (curves) into the presentation plot program (2.2.1.3)
- Enhanced axis menu for 'All curves in 1 plot' (5.1.7.1)
- Improved compilation of 3-dim plot in PresProg (5.2.0.5, 5.2.3.2)

C) Documentation:

- New and enhanced chapters of Software Manual, see brackets
- Parameter guide (1.2.5)
- English translation of dissertation of S. Weiss
- Equations for MIS kinetic in Theory Manual (T2)
- Additional information in the Installation Manual, especially in I3.5 to I3.8
- Diagnose chapter in Hardware Manual (H4)
- Influence of the series resistance (H5.1)
- Pulse shape of fast pulse (H5.2)
- Documentation folder (I2.3)

D) Others:

- All known bugs are fixed
- Supports Windows themes and styles (2.3.1)
- Disables Windows sleep mode while program is running
- New Sentinel protection key without driver installation (I3.1.1)
- Supports Agilent 335XX fast pulse generator
- Network connection enabled for temperature controller and 335XX
- Backup of configuration files (I3.6)
- Separate program module for equilibrium measurements (3.5)
- Improved test of contact, 'Z'-button (2.1.1)
- Status monitor shows temperatures of last 20s (2.4.7.2)
- Diagnose tools (H4.1)

Version 3.4, 2012-08-29

A) Measurement:

- New capture measurements (3.2.1.5)
- Better noise suppression at C/V and I/V curves, takes into account 50/60Hz
- Improved computer temperature ramp with new parameters (2.4.6.2.3)
- New temperature test procedure (2.4.6.4)
- New features at tempscan variations (3.4.1.1)
- Improved CC-DLTS (6.2.1)
- CC-DLTS from table (6.2.1.1.2)
- Introduction of CS-DLTS (6.2.2)
- Improved compensation calibration

B) Data, plot, evaluation:

- New trap evaluation in MIS (6.3.3)
- New Oxide states tempscan evaluation (6.3.6.1)
- New Oxide capture evaluation (6.3.6.2)
- New oxide trap evaluation (6.3.6.4)
- Improvements of the Plot Programs (5.1.7, 5.2.1)
- Additional features for showing all curves in one plot (5.1.7.2)
- MultiSelect (2.2.1.1)
- Special plots for C/V curves with forward/backward direction (3.1.4.1)
- New b1T coefficient in isothermal and tempscan module (3.4.4.1)
- Stability check (3.4.4.7)
- Q/U files (4.4.1.5)
- CR from C/V curves (6.4.2)
- Enhanced TSC/TSCAP (4.4, 6.4)
- Introduction of TSV (6.4.4)

C) Documentation:

- New chapters 4.4, 6.3.6, 6.4 of the Software Manual
- Additional information in many chapters of the Software Manual
- Extended Hardware, Installation and Basics Manual
- New chapter 2 of the Theory Manual (MIS)

D) Others:

- Improvement at high screen resolutions
- Temperature correction at bad thermal contact
- Parameter for degeneracy of conductance band (2.4.3),
- Default parameters for 4H-SiC, temperature depending effective mass
- Sample parameters of many files (2.2.1.3)
- New diagnose monitors (I7.8)

Version 3.3, 2011-11-28

A) Measurement:

- Enhanced routine measurements (3.4.1.2)
- New tempscan batch measurements (3.4.1.3)
- Easier selection of period widths (3.4.1.1.4)
- Enhanced favored period widths (3.4.1.1.4), should always be used if possible
- New possibilities for TSC and C/V curves during tempscan (3.4.1.1.7)
- Improved computer temperature ramp with new parameters (2.4.6.2.3), should be now the standard ramp mode in most cases (3.4.1.4)
- New features for optical pulse and optical excitation (6.5.3, 6.5.4)
- Easier work with CC-DLTS (6.2.1)

B) Data, plot, evaluation:

- Extended file search in the data explorer (2.2.1.2)
- Improved Presentation Plot Program (5.2)
- Improved HERA transient evaluation (6.1)
- New define/sort modes for HERA TranEval (6.1.4.1.1)
- Anonymous mode for ConvData program

C) Documentation:

- New chapters 5 and 6 of the Software Manual
- Additional information in many chapters of the Software Manual
- Extended Hardware, Installation and Basics Manual
- Help menu entry 'Manual for data' (2.5)
- New description of error messages
- Support of further PDF readers (2.5)

D) Others:

- New features in all program modules
- Many improvements in all program modules
- All known bugs are fixed
- Additional diagnose modes (1.1.3)
- Support of further temperature controllers (see CryoFile.Txt)
- Extended SetConf program