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9.7 11/01/13

\* New official version 9.7

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9.6.139 10/17/13

\* MARS spectrometer extended configuration in LISE++ package

\* Plotting Envelopes with rotation blocks:

- Absolute and local XY-orientation for MC envelopes
- Absolute and local XY-orientation for Distribution envelopes
- Modification : Drawing Block aperture size in MC plots
- Absolute rotation angle is property of each block and being modified @ void CalcBlock::SetFlags()

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9.6.134 10/15/13 "Accept matrix" button in the Wien Optic dialog

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9.6.133 10/09/13 Kinematics plot : modifications in axis titles

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9.6.132 10/08/13

\* neutron and gamma induced reactions in the Kinematic Calculator

\* Corrections in transmission subroutines :

- a. modification for large angular straggling @ very low energies : fixed
- b. in the case of materials only previous disperse block was used instead any optical block : fixed

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9.6.126 10/03/13

- \* IMPORTANT!!!! Correction in calculation for transmission through materials (so called "unstopped in material" coefficient )
- \* Gas Cell utility modification
- \* Correction in Monte Carlo Eloss and Range plots

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9.6.123 09/30/13

- \* Transmission window: new orders, new positions
- \* Menu "1D-plot" -> "Transmission characteristics" : new parameter "#2 Total isotope transmission"
- \* using p,n reaction in DifCS dialogs (TwoBody reaction)

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9.6.119 08/14/13

- \* Help-links in the Kinematic calculators
- \* Correction in GetT12 for private\_line. Crash in Delay block

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9.6.117 08/06/13

- \* Help-link for Charge states from energy in the Mechanism dialog
- \* Increase of distribution dimension for charge state plots

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9.6.116 08/01/13

- \* New LISE++ block : "Shift"
- \* Update in block selection at the Spectrometer Scheme
- \* LISE++ block "Shift" transmission
- \* Subtitles Correction in W\_Graph

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9.6.112 07/31/13

- \* D-line files in LISE++ package
- \* increase precision in Setup dialog for length, fields, and in LPP-files
- \* modification for negative angle in ED

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9.6.108 07/29/13

- \* E-dipole - Eom - dimension correction (om\_mm)
- \* Erho solution for ED @ MC, P-solution for Ed @ Analytical
- \* ShowSetup -- Energy beam format modification
- \* Equad -- options : matrix keeping, automatical U recalculation, and U-keeping, autom.recalc
- \* Edipo - matrix calculation in the block
- \* Edipo - option of automatical matrix recalculation

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9.6.102 07/25/13

- \* Analytical & MC solutions for Electrostatical dipoles
  - \* Erho selection in MC transmission
  - \* Brho-alayzer modification for dispersion
  - \* Equilibrium thickness from SRIM
  - \* Modification Dim & Unit in distributions
  - \* Global revision Beta,Gamma,Brho, Erho functions
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9.6.95 07/22/13

- \* Window Message in the case of error in MC\_trans\_init\_array (for debug)
- \* Modification WGauge for MCm and creation TStatusBar for MC initialization
- \* Scroller revision in TWindowList
- \* The Reaction parameter in MC output file
  
- \* new threshold: 30 000 ions for Monte Carlo transmission calculations
- \* new threshold: 30 000 ions for analytical transmission calculations
- \* new threshold: 300 blocks available in LISE++
  
- \* New address for dynamical menu. New indexation!!!
  
- \* Corrections in the "Analytical Calculation" button @ MC transmission dialog
- \* Erho parameter in MC transmission dialog
- \* Erho plots
- \* Correction for the "Beam-Fragment charge states" plot in the case of Stripper
  
- \* Electrical dipole Optical Matrix calculation (Electric rigidity selection under construction)

- \* Validation of all Edit values in the ElectirDipole dialog
  - \* Remember the last input mode (Brho or B) in Optical block dialogs
  - \* New button Fix Brho (Erho) value in the quadrupole dialogs
  - \* New kind of drift: Electrostatic quadrupole (including matrix calculation)
  - \* Glyph button correction in the case of change of Drift type
  - \* The "Ideal magnet" dialog revision
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#### 9.6.75 07/11/13

- \* Correction in Multiple Reactions use (when AF and PF together, and AF is the first)
  - \* Correction in Multiple Reactions use settings at loading the code with lpp.argument
  - \* Correction for message of IsoMode in the Rays Output generator
  - \* E.Dipole - scheme in the Dialog, new parameters Type of Bend, and TorRadius
  - \* Trajectory length cell in all Dipole dialogs (D6, Dip, ED, GFS)
  - \* New drift mode template -- e-quadrupole
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#### 9.6.68 07/08/13

- \* Correction in MC transmission to avoid a crash (sigma-per & NCALC\_MC)
  - \* Gauges in MC transmission & checking or memory for case of several isotopes
  - \* Calculation backward transmission (realistic)
  - \* Modifications in Matrix Kinematics (Fission, Two-body reactions)
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9.6.63 07/03/13

- \* Modifications in analytical calculations of transmission and kinematics in the case of Two-body rand fission reactions
  - \* Correction in Output MC Rays dialog
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9.6.54 06/30/13

- \* User DifCS in MC transmission
  - \* Writing and Reading User DifCS to/from LISE++ files
  - \* User DifCS at the User CS dialog
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9.6.50 06/25/13

- \* Correction in the MC gate dialog
  - \* Special case in MC transmission, then FCup after Stripper with Charge state option on
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9.6.48 06/24/13

- \* Modification in MC transmission for A/q, A-2q and A-3q parameters
  - \* Modification in MC transmission for plot initialization in the case of large number of distributions
  - \* Charge state checkbox modification in the case of non-zero argument at start-up
  - \* Corrections in MC transmission for negative Vz  
(only positive Vz, previous condition was positive Energy )
  - \* Reconstruction in 2D-kinematic plots in the Kinematics dialog
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9.6.44 06/21/13

- \* Utility menu : Differential cross sections utility, LAB<->CM converter
- \* Modifications in the Kinematics calculator -- Dif Cross Section file button
- \* Modifications in the Kinematics calculator (Monte Carlo mode)
- \* MC transmission -- new parameters Velocity\_Z, Velocity\_X, and so on

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9.6.32 05/28/13 RF-kicker correction in taulise\_optic

9.6.31 05/23/13 new PACE4 version 4.20

9.6.30 05/07/13 Modernization of Abrasion-Ablation for Initial Prefragment plot

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9.6.29 04/19/13 Modernization of output subtitles in the case of extended configurations

9.6.28 04/19/13 Correction in MC plots due to bug after implementation Input rays file

9.6.26 04/18/13 position in Dispersive plane for beam and fragment charge states

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9.6.25 04/17/13 Check button for Charge States in the Status bar

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9.6.23 04/16/13 Input of ions rays after target in MC

9.6.21 04/11/13 several locations for output MC file

9.6.20 04/10/13 MC gate optimization; creation of local checkpoints filters

9.6.19 04/09/13 New A,Z,Q and other fields and filters in MC

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9.6.18 04/05/13 Update in dialogs for help links

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9.6.17 04/03/13 fix: serious bug in passing material for MC

9.6.16 04/02/13 update of discovery.iso file

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9.6.15 03/26/13 correction for graph\_text --- charge state, and length of string. was crash

9.6.14 03/26/13 SISSI-LISE configuration and example file

9.6.13 03/25/13 T1/2 error in for 1d-plot

9.6.12 03/25/13 T1/2 error in W\_ShowCalc

9.6.11 03/25/13 T1/2 error in Database dialog

9.6.10 03/25/13 links for lise pdf : rotate, edipole, gns, delay blocks

9.6.9 03/22/13 fix for thick stipper in the case Projectile Fragmentation and UP

9.6.8 03/21/13 becomes 9.6

9.5.7 03/21/13 misspelling of "capture" word in the Fusion-information window

9.5.6 03/09/13 modification for dME field 15 for 16 @ double GetFromDatabase(Celement \*Ct, int index, double &error){ //for W\_Graph

9.5.5 03/06/13 decreased threshold down log to 1e-25 in 2d =25 plots

9.5.4 03/06/13 modification for dME field 15. everwhwere 16

9.5.3 03/06/13 new database (d T1/2)

9.5.2 03/06/13 "ys" time in T1/2 dbf - yoctosecond 10<sup>-24</sup>

9.5.1 03/06/13 for DBF-file reserve dME for dT12, help for fission\_barrier