List of Modifications: LISE++ versions 9.8.*

9.8.176 12/24/14

* Extended MSP144+Q2 (Dubna) configuration

9.8.175 12/13/14

* Abrasion-Fission : velocity of fissile nuclei
 -- distribution method
 -- MC method

* Update of MARS configurations & files
* BigRIPS high order configurations
* Links on available beams in Europe and RIKEN

* PhysCalculator -- do not clean statistics at exit
* Modification for EPAX2.15 (option 3), increase the coef for light nuclei starting Be (Z=4)

9.8.167 11/26/14

* Update of E-dipole information in the Optic dialog
* Update of SHELS (Dubna) configuration and calibration files

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9.8.165 11/19/14

* Modifications important for fission and two-body reactions at low energies
- Modifications of Angular Acceptance passing for fission products
- Fission Matrix Kinematics modification - filling by a min energy value rest of matrices

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9.8.162 11/18/14

* Correction for Drift eff.length at file opening that caused crash
* SHELS (Dubna) configuration and calibration files
* PRISMA (Legnaro) separator
* Address modification for the NSCL beam list

9.8.158 11/13/14

* Help link from the Quad effective length dialog and ES_methods
* Modification for SE-methods in the Elect.Dipole dialog

* Minimum energy threshold for angular straggling calculations in Analytical transmission mode
* Modification of Show Transmission Window

9.8.153 11/10/14

* D6, ED block -- modification for SE_method
* Wien block:
-- modification for SE_method -- correction for zero brho value
-- matrix calculation inside of class

9.8.147 11/06/14

* Modification of Brho dialog, Block option dialogs for ES_method
* Modifications of Separator Setup & Quad Setup for _E_Block lengths
* New property of optical block : section / element
* I(A) current in the Multipole dialog (if the calibration file exists)

9.8.138 11/03/14

* A1900 configuration with Beam Dump after the 1st dipole
* New Beam Line (Drift block mode) property: quads for scheme

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9.8.136 11/02/14

* Modification for last optical block for transmission calculations in the case of Faraday cup

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9.8.135 10/31/14

* Manual recalculation of e-blocks
* New property of optical block : Permission for Remote recalculation
* Test for correct effective length settings

9.8.128 10/28/14

* Plots for CS vs Systematics
* New dBE & dBEsn plots in the new submenu "Systematics distribution" in "1D-plots" menu
* Logarithm scale for horizontal axis (1D-case)
* New checkbox for Methods to draw : Grids, Slits

9.8.120 10/20/14

* Effective multipole length

9.8.117 10/15/14

* PhysCalculator -- ion mass field, all calculations uses ion mass
* Global changes of the code to use new ion masses
* New functions : ion mass (taking into account lost electrons)

9.8.114 09/02/14

* Abrasion Ablation Width decay -- correction for 26O case
* "Stability" separation energy plot

9.8.110 08/13/14

* Update for passing stripper in Fission kinematics. Important for low energy and thick stripper
* Fission barrier : correction to use calculation in the case of Muller's file
* Modifications: Drawing MC rate (total value)
* Fixed: Loading file in the optical matrix dialog
* Modifications: Random generator -> change factor to initialize

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9.8.105 08/01/14

* the "FRIB isotopes" utility under development
* internal re-initialization of the generator of random numbers
* new bounds in MC plot if no event in initialization process
* correction: MC list file -- only one set reaction was passing

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9.8.100 07/22/14

* Options "write all rays" and "write only passed rays" in the MC file utility
* Beam integral in MC plots
* Precise calculation of mean energy after material for
  qualitative estimation of reactions in material
* Revision of Reaction Characteristics at small energies
* the beam scattering option has been closed

9.8.093 07/16/14

* New colors and labels for Multipoles

9.8.092 07/10/14

* Transport file import to LISE++ update for tuning dipole

9.8.091 07/08/14

* Optical block edit dialog icon in the toolbar
* Angular acceptance option in the MC dialog

9.8.089 07/07/14

* "Transport" code file import to LISE++

9.8.086 06/18/14

* LISE3 separator extended version and recommendations for extended configurations
* Plot Statistics window modification
* Modification of the Transmission analysis dialog from ShowTransWindow due to crash

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9.8.083 06/10/14

* Modifications in Total isotope transmission plot
* NCalc number has been increased up to 40 000

9.8.081 05/30/14

* ISOL rates plot from "Utilities" menu
* Corrections in Global weighted isotope transmission plot

9.8.078 05/22/14

* Fission Kinematics revision in taulise-subroutines
* Important update for Fusion-Fission Kinematics

* Update of GSI configurations

9.8.075 05/15/14

*Correction for 2d MC plot in the case of one selected isotope

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9.8.074 05/06/14

* Target-Wedge optimization:
- save and restore wedge angles
- column "Total" in result file, plot "Total"

- Option for Wedge angle

* "Find Simple Wedge solution" correction in the case intermediate optical blocks
* No check for secondary reactions to see transmission if file was just opened
* "Block Wedge" Dialog : changes for Dispersion of Previous Optical block

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9.8.065 04/09/14

* LISE.xls modifications of statistical functions

* Estimation of error of mean value
- Plot & Save : Estimation of error of mean value
- X-error on plot
- Revision of Errors of mean and sigma including dX-error

9.8.060 04/03/14

* Warning message if "Number of charge states in file less the number" (MC Isotope List)
- Modification in MC calculation for charge states - Check for materials to change charge states between disperse blocks (MC mode)

* entrance for ISOL plot and documentation

9.8.056 03/27/14

* TAMU Solenoid configuration file with kept MC settings
* Monte Carlo settings : Read/Write from/to LISE++ file

* Option to show Quadrupole or Sextupole Field value in the Setup window

* Correction in LISE++ File Read/Write subroutines
* Correction in MC Gate dialog for the RF Cyclotron CheckBox
* "File Open", "Cfg Load", File Append" commands are DISABLE in MC mode
* Modification in Cross Section calculations call @ MC mode

9.8.048 03/24/14

* MARS, RIBF, FRS schemes
* TAMU logo

* New MARS configuration and example files
* Modification of the Compensating dipole dialog (open/save file)

9.8.044 03/18/14

* Compensating dipole: minimization
* New links for NSCL and FRIB rates
* Compensating dipole: platform inclination angle sign equal to Dipole angle sign

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9.8.041 03/15/14

* MARS extended configuration with Quad and Dipole calibration files
* Quad calibration (B[I]) development

9.8.037 03/10/14

* Modification due to the Compensating dipole revision
* New GSI configuration and example files
* Kinematics calculator: two-body vs. gamma (correction)
* Optical blocks colors in set-up window

9.8.32 02/18/14

* Protected mode for selection of channels in the Evaporation option dialog
* Solving 2n-decay issue with only 1n channel option (case of 26 Oxygen)

9.8.30 02/13/14

* save/restore information of calculated ion transmission the case of temporary profile insertion in order to get information for primary beam and setting fragment charge state distributions (menu "1D-plot" and corresponding icon in the toolbar)

* Option Exclude p-unbound nuclei < 1e-9s from calculations of residual cross sections
* Font size "+" & "-" buttons in the Plot toolbar

9.8.26 02/03/14

* Update the table of nuclides for new isotopes from 2012-2013: new table2014.iso
* New excitation energy model #3 (Excitation energy-exponential)

* Cleaning the excitation energy model #2 from unused parameters

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9.8.23 01/25/14

* Range optimizer : backward calculations to estimate a thickness of degrader

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9.8.22 01/24/14

* LISE optics : FINAL solution for Quad and Sext together

* Ideal magnet dialog:
- solution for Quad and Sext together
- Sextupole through Global equations
- k2s in sextupole mode

*** Range optimizer**

9.8.005 01/09/14 Range optimizer update for optics recalculation
9.8.006 01/09/14 Range optimizer update Save and Restore Brho-values
9.8.007 01/09/14 Monochromatic wedge optimization in Range optimizer
9.8.017 01/21/14 New default values for Gas Cell utility, Plotting method has been changed

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*** Mutlipole; Optics**

9.8.010 01/14/14 Magnetic Multipole
9.8.011 01/15/14 Edit Optics Dialog : it is possible view to optical matrix order
9.8.013 01/15/14 Optic dialogs: forbidden to calculate matrices if they are linked to COSY files
9.8.014 01/15/14 Multipole and EQuad dialogs -- hide the Calculate buttons if calculations were done, and nothing were changed more
9.8.015 01/16/14 Option "Use Fringe Filed for Dipole"
9.8.016 01/16/14 Correction for Automatic sextupole-B recalculation

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*** Miscellaneous**

9.8.001 11/05/13 correction in the Shift block for the case of angular shift and fission
9.8.002 11/18/13 new published data for 78Kr and 86Kr (Pfaff)
9.8.003 01/07/14 Bug in the Kinematic Calculator
9.8.004 01/08/14 EPAX 3.1 problem for secondary reactions
9.8.008 01/12/14 "Selection" issue has been solved in the Set-up dialog
9.8.009 01/13/14 "Selection" issue has been solved in the Optics-Edit dialog
9.8.018 01/21/14 Modification in 2D MC plot output: from GANIL integer format to double
9.8.012 01/15/14 Statistics file and Contour frame statistics: more digits in outputs