

FFFanalysis Software

**Advanced Software Package for
Analysis, Calculation, Prediction and
Simulation of FFF Data and Runs**

Key Functions

Analysis and Calculation of FFF Results

- Import and analysis of real and existing FFF data
- Data processing for data from Flow FFF, Centrifugal and Thermal FFF
- Calculation of Particle Size and Diffusion based on original published FFF Theory

Real-time Simulation and Prediction of FFF Data and Runs

- Simulation of real conditions of typical FFF run under real time conditions
- Fast access and easy-to-use graphical interface delivering direct results
- Graphical and visualization of simulation online with moving particles
- Simulation algorithm based on the original FFF theory published
- All calculations and predictions are based on the Prof. Giddings science code
- All typical parameters of FFF can be varied and evaluated by the simulation
- Simulation and prediction will be displayed as movie-style FFF real-time or accelerated runs
- Advanced simulation of lateral and vertical peak broadening for each size fraction
- Visual display of actual particle number and “real-time” particle movement through channel

NovaFFF Analysis & Simulation



Main Window

NovaFFF Analysis & Simulation


POSTnova
Leading in FFF

Version 0.9

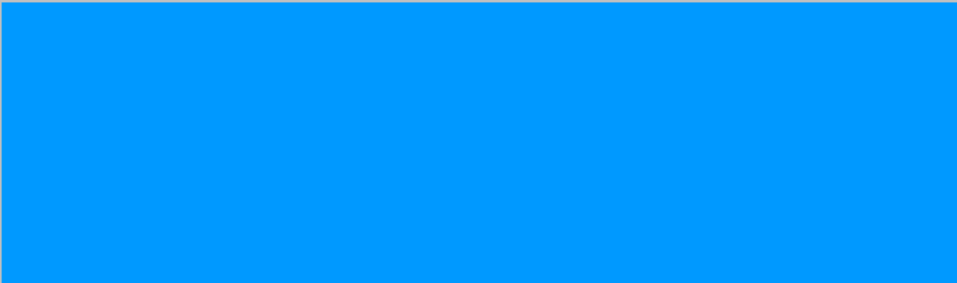
Time

Detector

Channel Flow mL/min Focus Flow

Tip Flow

mL/min



Cross Flow mL/min Elased Time

Fast

tau

Bandwidth

Random X Motion

Random Y Motion

X Position

DTG error

Particles

Size nm

Number

tr minutes

w

bzprime

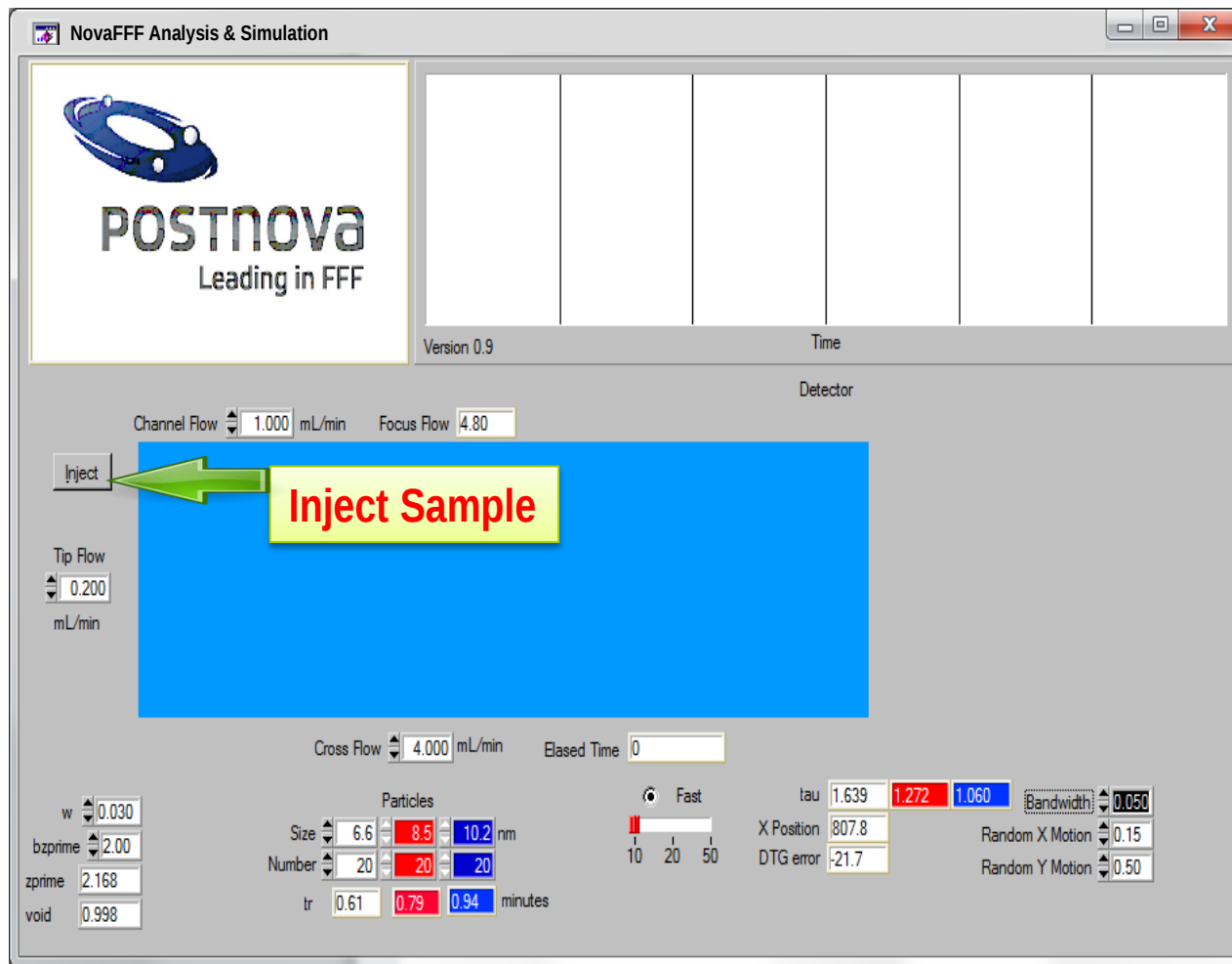
zprime

void

NovaFFF Analysis & Simulation



1. Sample Mix Selection & Start Inject



Flow Conditions

- Tip Flow Rate
- Channel Flow Rate
- Focus Flow Rate
- Cross Flow Rate
- Total Run Time

Channel Dimensions

- Channel Thickness
- Channel Volume
- Focus Plane Pos.

Sample Conditions

- Mix of 3 Particles
- Particle Size
- Particle Number
- Retention Time

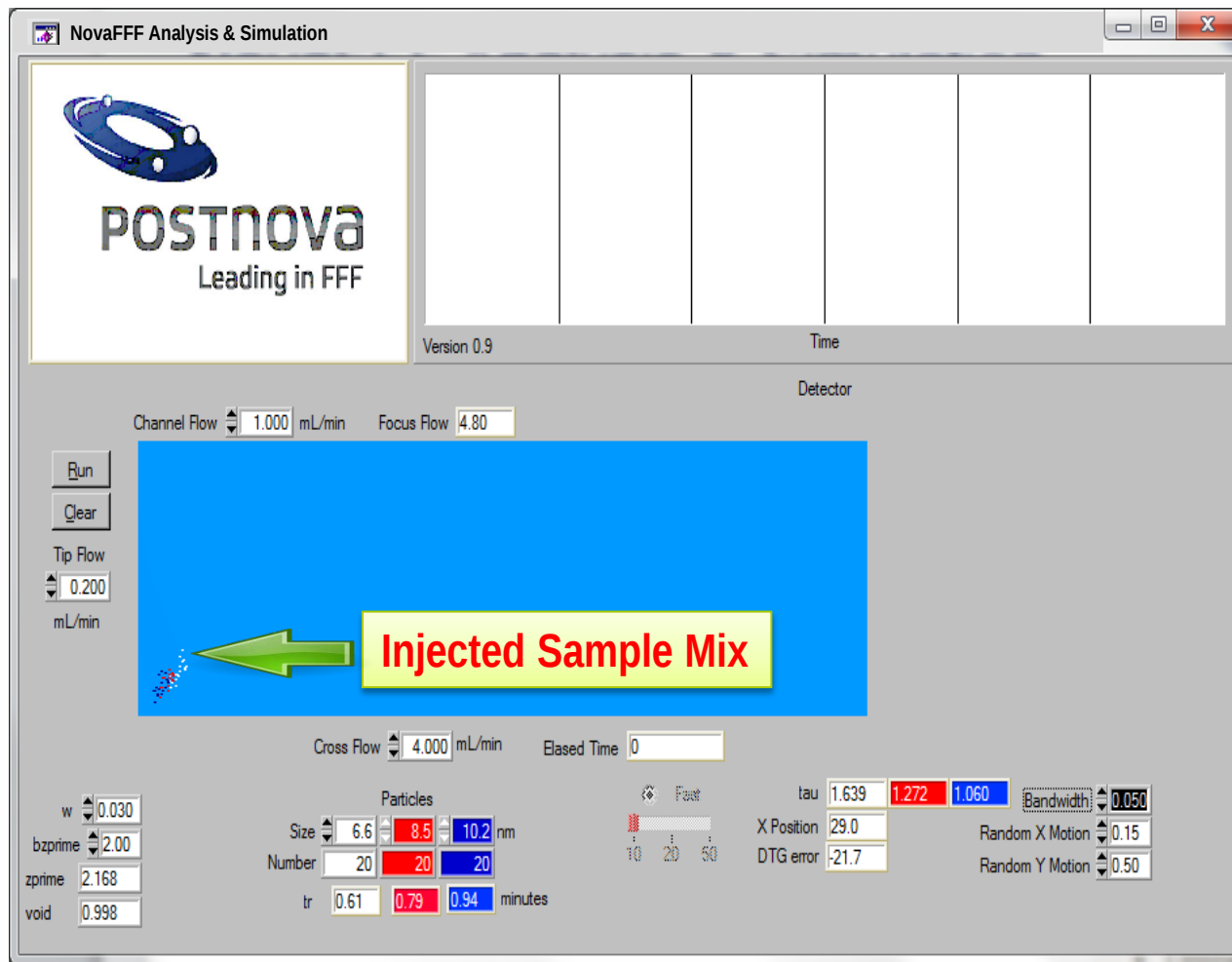
Separation Results

- Online Visualization
- Display of peaks
- Retention time
- 2-Dimension Band Broadening Simulat.

NovaFFF Analysis & Simulation



2. Sample Mix Injection & Focusing



Flow Conditions

- Tip Flow Rate
- Channel Flow Rate
- Focus Flow Rate
- Cross Flow Rate
- Total Run Time

Channel Dimensions

- Channel Thickness
- Channel Volume
- Focus Plane Pos.

Sample Conditions

- Mix of 3 Particles
- Particle Size
- Particle Number
- Retention Time

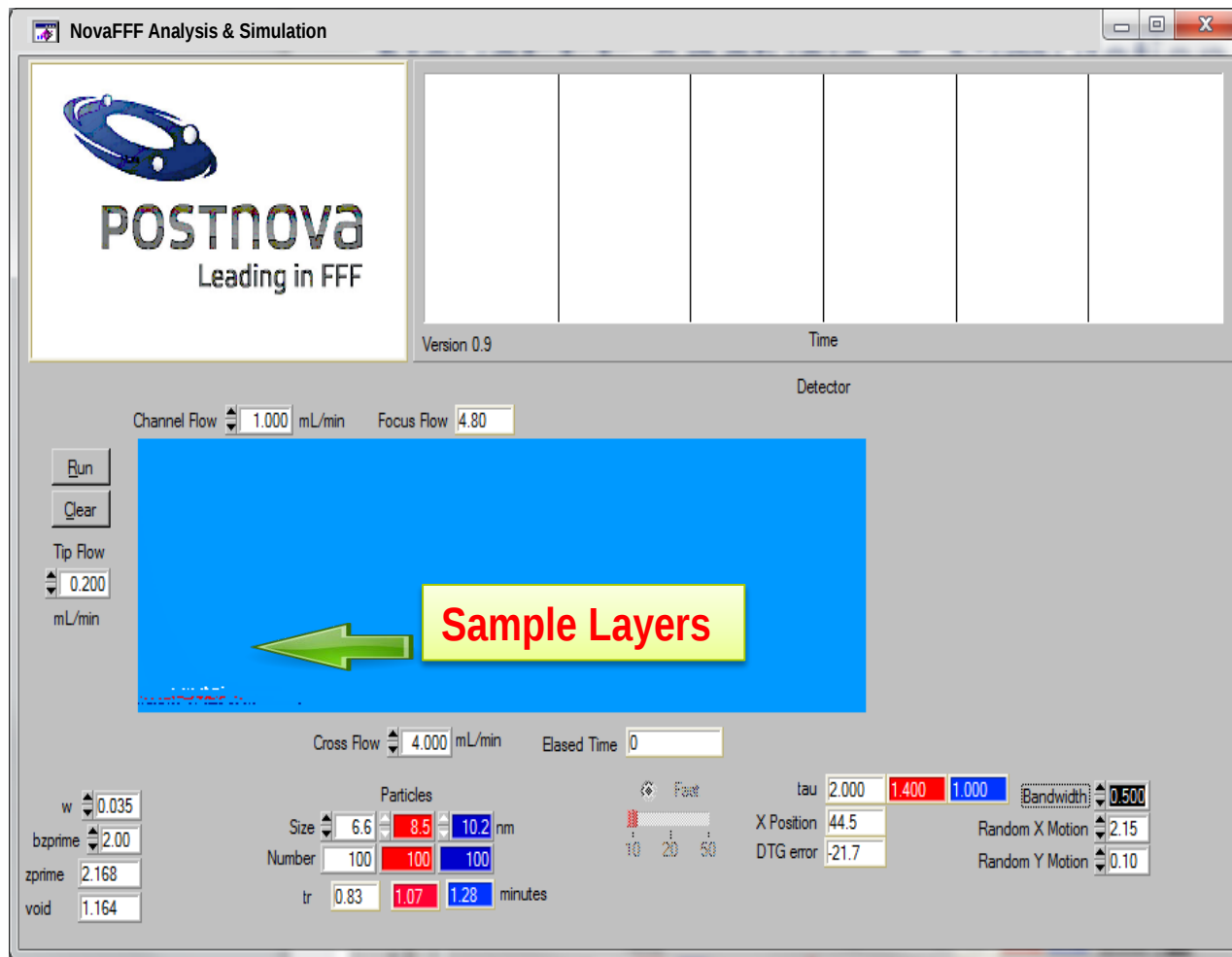
Separation Results

- Online Visualization
- Display of peaks
- Retention time
- 2-Dimension Band Broadening Simulat.

NovaFFF Analysis & Simulation



3. Sample Mix Focusing & Relaxation



Flow Conditions

- Tip Flow Rate
- Channel Flow Rate
- Focus Flow Rate
- Cross Flow Rate
- Total Run Time

Channel Dimensions

- Channel Thickness
- Channel Volume
- Focus Plane Pos.

Sample Conditions

- Mix of 3 Particles
- Particle Size
- Particle Number
- Retention Time

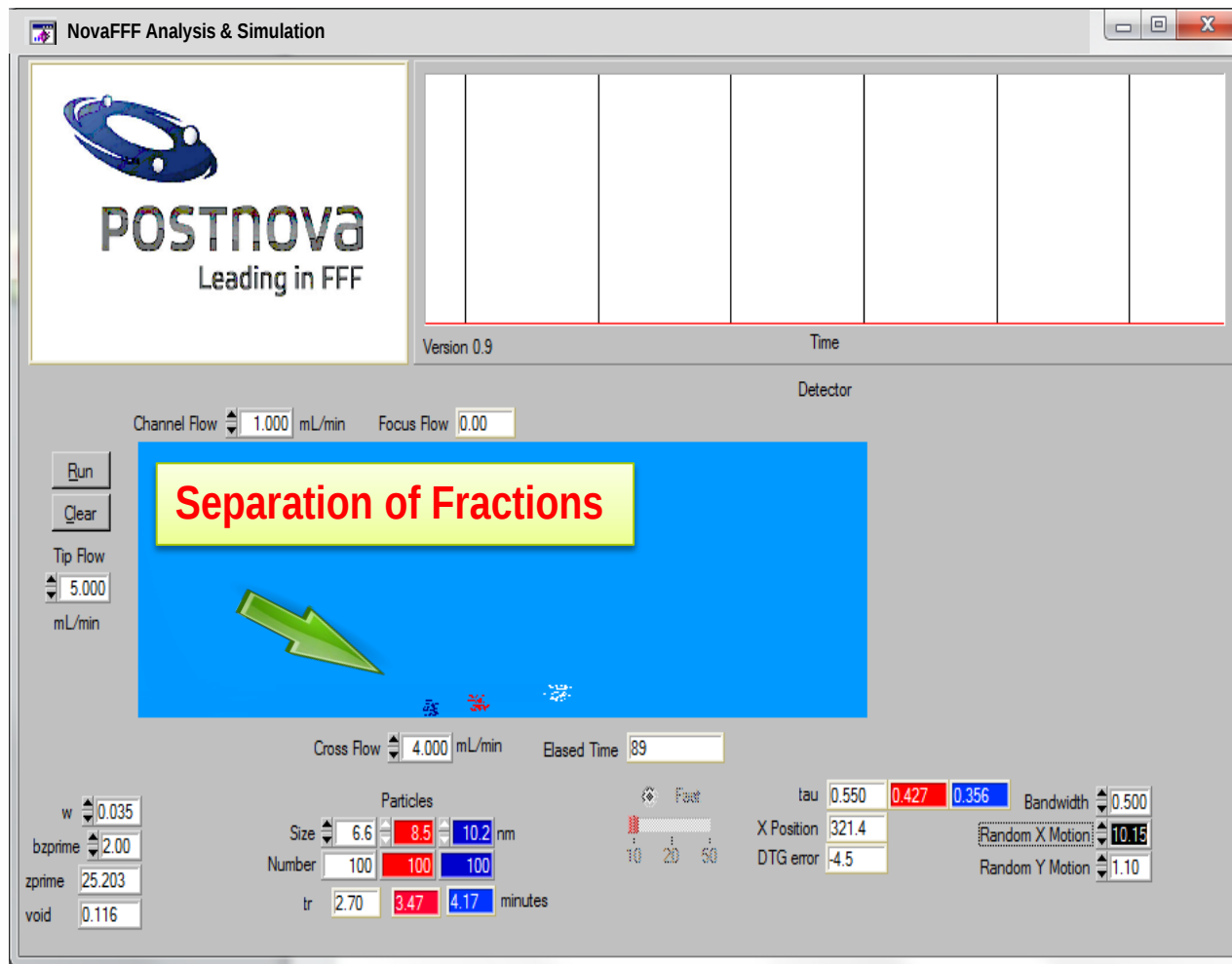
Separation Results

- Online Visualization
- Display of peaks
- Retention time
- 2-Dimension Band Broadening Simulat.

NovaFFF Analysis & Simulation



4. Sample Mix Separation



Flow Conditions

- Tip Flow Rate
- Channel Flow Rate
- Focus Flow Rate
- Cross Flow Rate
- Total Run Time

Channel Dimensions

- Channel Thickness
- Channel Volume
- Focus Plane Pos.

Sample Conditions

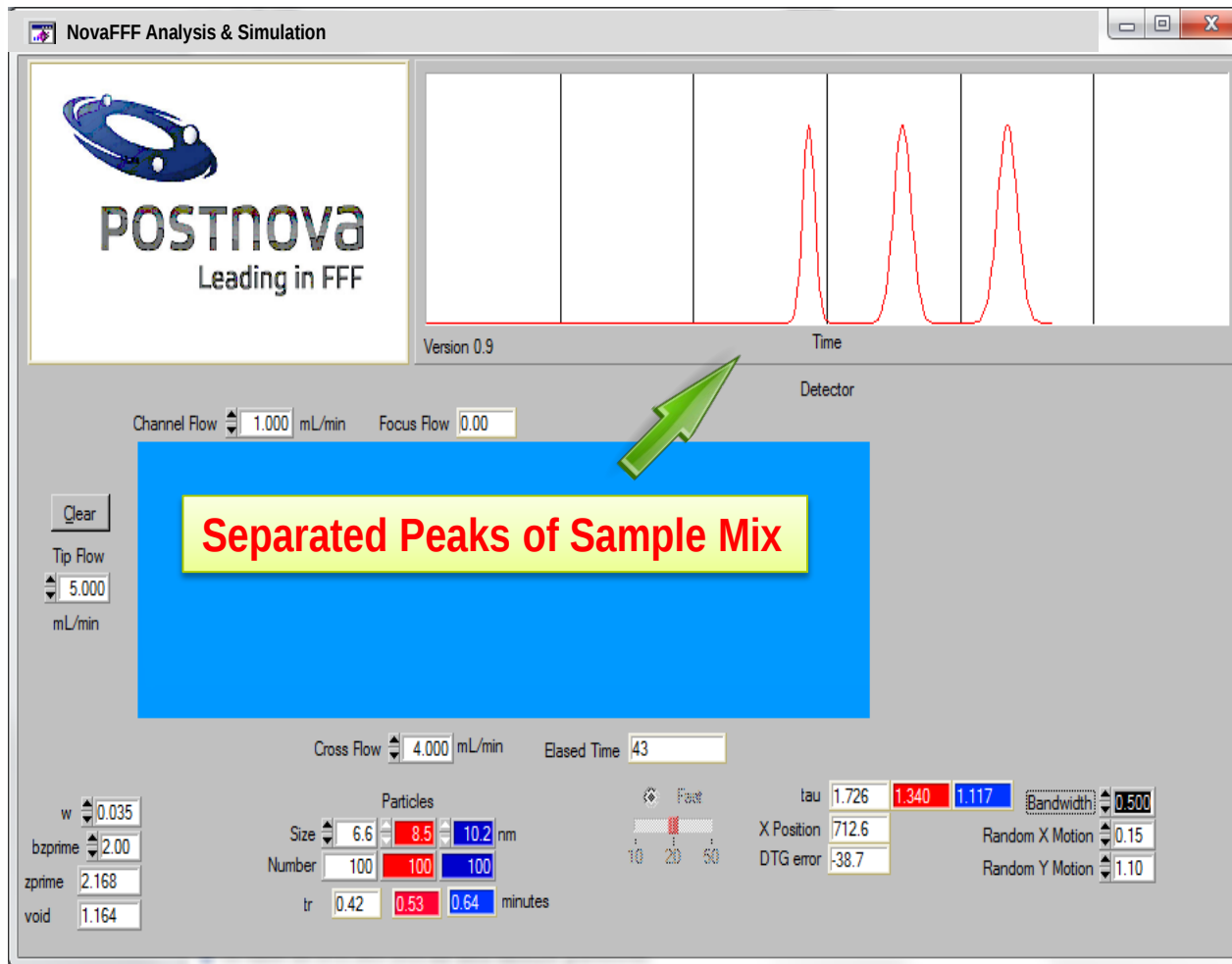
- Mix of 3 Particles
- Particle Size
- Particle Number
- Retention Time

Separation Results

- Online Visualization
- Display of peaks
- Retention time
- 2-Dimension Band Broadening Simulat.

NovaFFF Analysis & Simulation

4. Result



Flow Conditions

- Tip Flow Rate
- Channel Flow Rate
- Focus Flow Rate
- Cross Flow Rate
- Total Run Time

Channel Dimensions

- Channel Thickness
- Channel Volume
- Focus Plane Pos.

Sample Conditions

- Mix of 3 Particles
- Particle Size
- Particle Number
- Retention Time

Separation Results

- Online Visualization
- Display of peaks
- Retention time
- 2-Dimension Band Broadening Simulat.