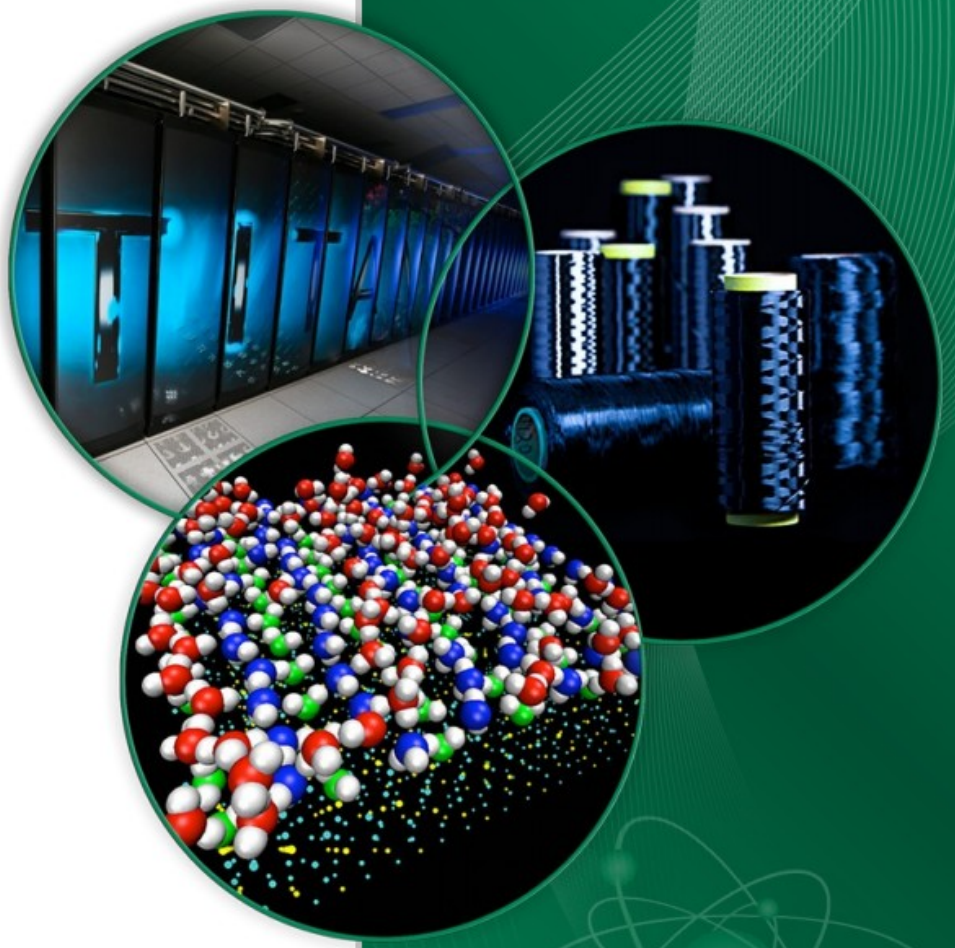
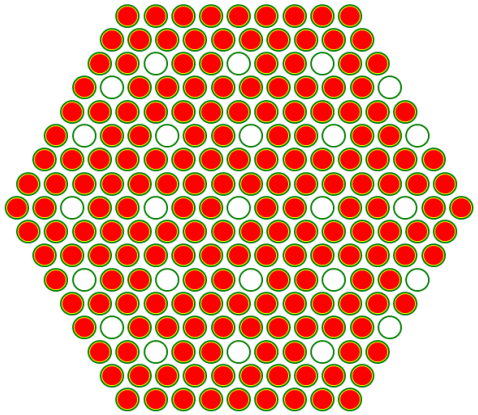
A Screenshot Tour of the Science Working Group

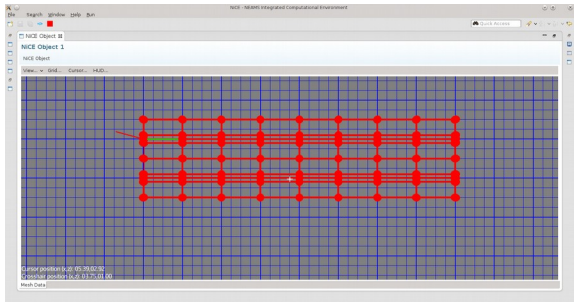


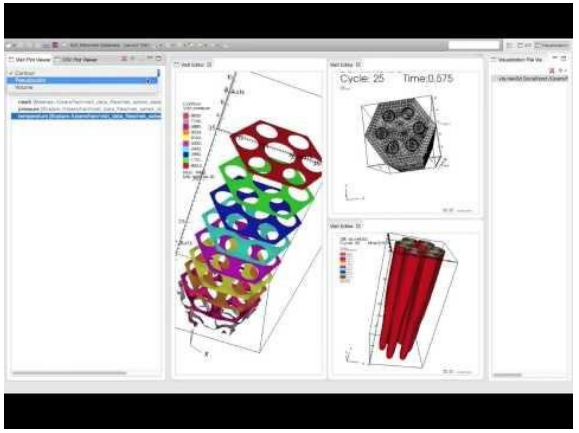
Jay Jay Billings
Research Staff, CSMD
Oak Ridge National Laboratory
The Bredesen Center
billingsjj@ornl.gov

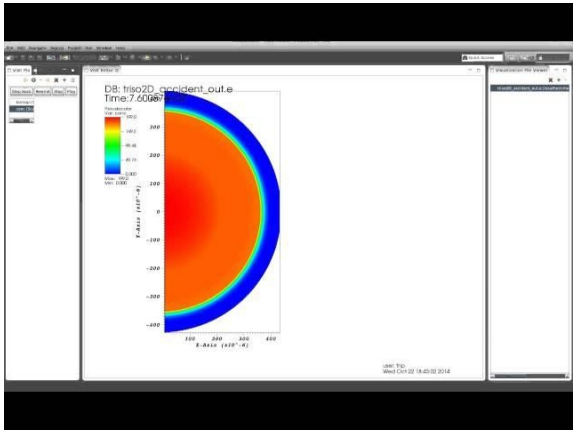
20150310

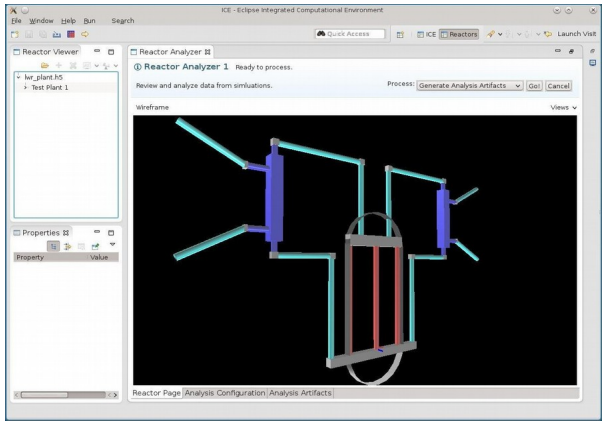
Eclipse ICE in 9 pictures or less

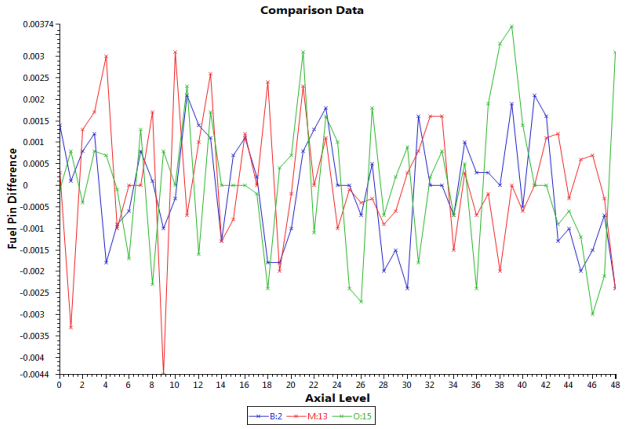


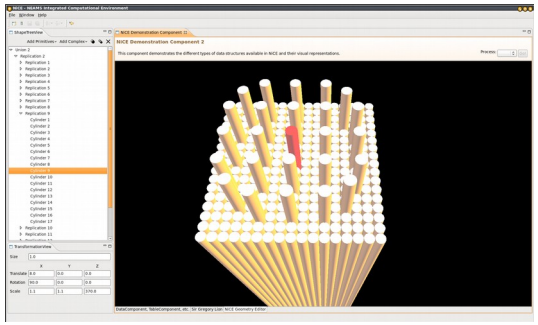


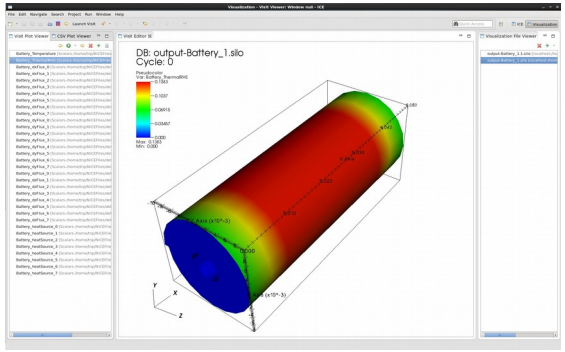


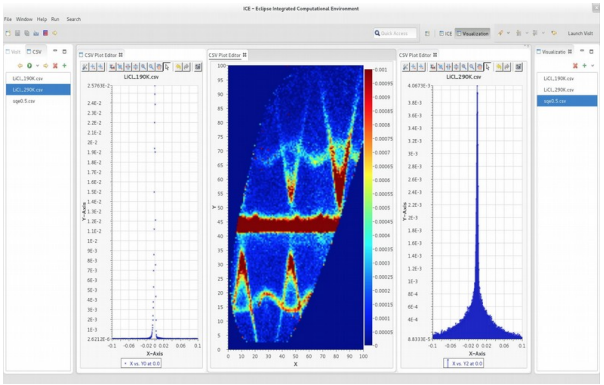


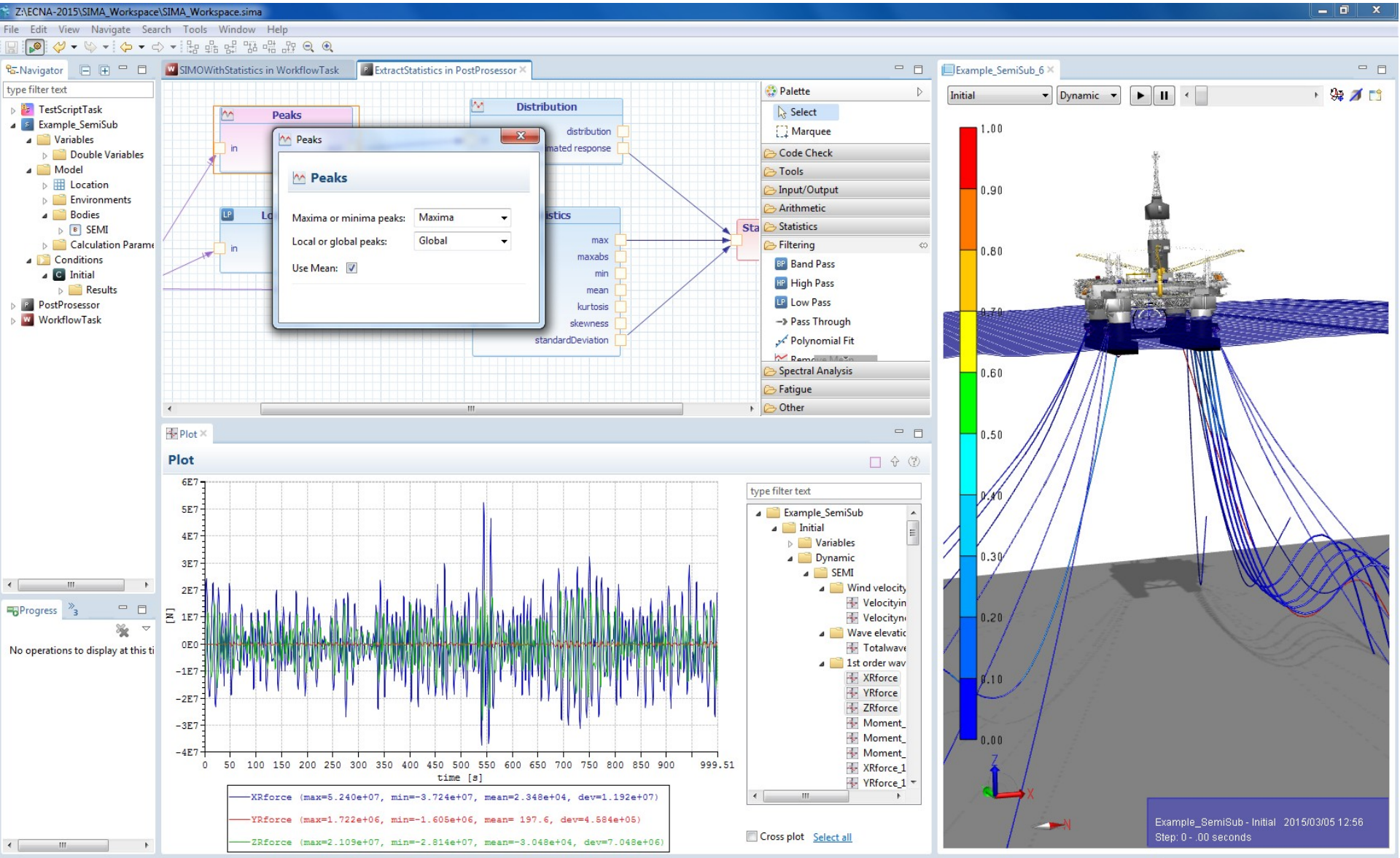








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Navigator
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TestScriptTask
Example_SemiSub
Variables
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Results
PostProsessor
WorkflowTask
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standardDeviation
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Tools
Input/Output
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Statistics
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High Pass
Low Pass
Pass Through
Polynomial Fit
Spectral Analysis
Fatigue
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YRforce (max=1.722e+06, min=-1.605e+06, mean= 197.6, dev=4.584e+05)
ZRforce (max=2.109e+07, min=-2.814e+07, mean=-3.048e+04, dev=7.048e+06)
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Example_SemiSub - Initial 2015/03/05 12:56
Step: 0 - .00 seconds

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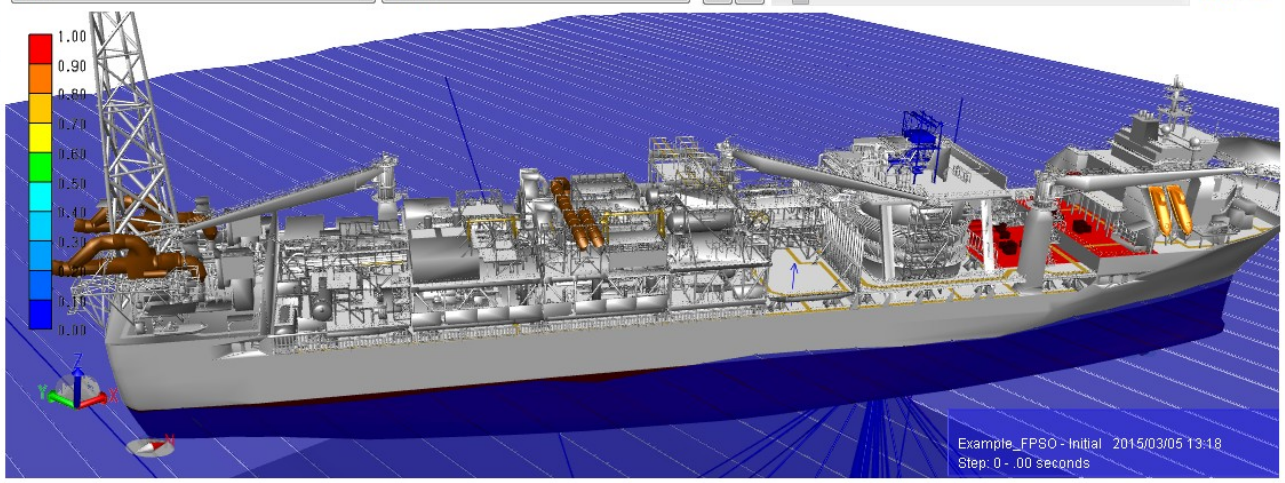
File Edit Navigate Search Tools Window Help

Example_FPSO_1



Text | Report

Text

```
h1. Reports in SIMA

Reports are authored using a Wiki markup language such as Textile and can include
formulas written in LaTeX as well as images, tables and charts created by the
post processor.

The resulting document is in the Office Open XML format (OOXML) and can be worked
on further using a text processor application.
```

Console | Task | Formula

Formula

```
\Re{z} =\frac{n\pi \dfrac{\theta +\psi}{2}}{
        \left(\dfrac{\theta +\psi}{2}\right)^2 + \left( \dfrac{1}{2}
        \log \left\lvert\dfrac{B}{A}\right\rvert\right)^2}
```

Caption: Example Formula

Preview

$$\Re z = \frac{n\pi \dfrac{\theta+\psi}{2}}{\left(\dfrac{\theta+\psi}{2}\right)^2 + \left(\dfrac{1}{2}\log\left|\dfrac{B}{A}\right|\right)^2}$$

Help

Contents Search Related Topics Bookmarks Index

SIMO User Guide >

Hydrodynamic Interaction Between Bodies

Table of Contents

- Coupled added mass data
- Coupled retardation function

This option enables the user to include hydrodynamic interaction effects between an arbitrary number of bodies. These effects may be significant when the distance between the floating bodies is small.

Two groups of data are considered to enable this functionality:

- Coupled added mass (at infinite frequency)
- Coupled retardation function

Other load terms affected by hydrodynamic interaction are specified together with body forces (section A2).

The input specification makes use of the symmetric properties:

- Coupled added mass: $(A_\infty)_{i,j} = (A_\infty)_{j,i}$
- Retardation function: $\boldsymbol{h}(t-\tau)_{i,j} = \boldsymbol{h}(t-\tau)_{j,i}$

where the indices *i* and *j* refers to body *i* and body *j*.

Linear Damping

Linear Damping in Example_FPSO

Description:

	Surge	Sway	Heave	Roll	Pitch	Yaw
Surge	7.0e+05	0.0	0.0	0.0	0.0	0.0
Sway	0.0	7.0e+05	0.0	0.0	0.0	3.4e+07
Heave	0.0	0.0	0.0	0.0	0.0	0.0
Roll	0.0	0.0	0.0	6.27e+06	0.0	0.0
Pitch	0.0	0.0	0.0	0.0	0.0	0.0
Yaw	0.0	3.4e+07	0.0	0.0	0.0	1.65e+09

Create example 3D bottom


OpenChrom Enterprise Edition
14:00
*AP 1414
*AP 1415
*AP 1416
milliseconds (ms)
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relative abundance
minutes (min)
RT (min): 19,93 AB: 21603
RT (ms): 1195781
Chromatogram
Options
Info
Ion Transitions
Referenced Chromatograms
OP13937q.ocb
OP13938.ocb
OP13938q.ocb
OP13940.ocb
OP13940q.ocb
OP13942.ocb
OP13942q.ocb
OP13973.ocb
OP13975-quant.ocb
OP13975.ocb
OP13976.ocb
OP13978.ocb
OP13980.ocb
PCA
Mass Spectrum I...
m/z
abundance
16,1 143,0
17,0 532,0
18,1 2572,0
27,2 56,0
28,0 6926,0
29,0 60,0
32,0 2545,0
39,0 67,0
39,9 262,0
44,0 1108,0
93,8 85,0
206,9 94,0
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Molecule View
3-Furanmethanol | O1C=C(C=C1)CO
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Reverse Factc
Formula
3-Furanmethanol 4412-91-3 80,100 83,900 O1C=C(C=C1)
3-Furanmethanol 4412-91-3 78,300 82,500 O1C=C(C=C1)
1H-Imidazole-2-methanol 3724-26-3 74,900 82,700 N1C(=NC=C1)
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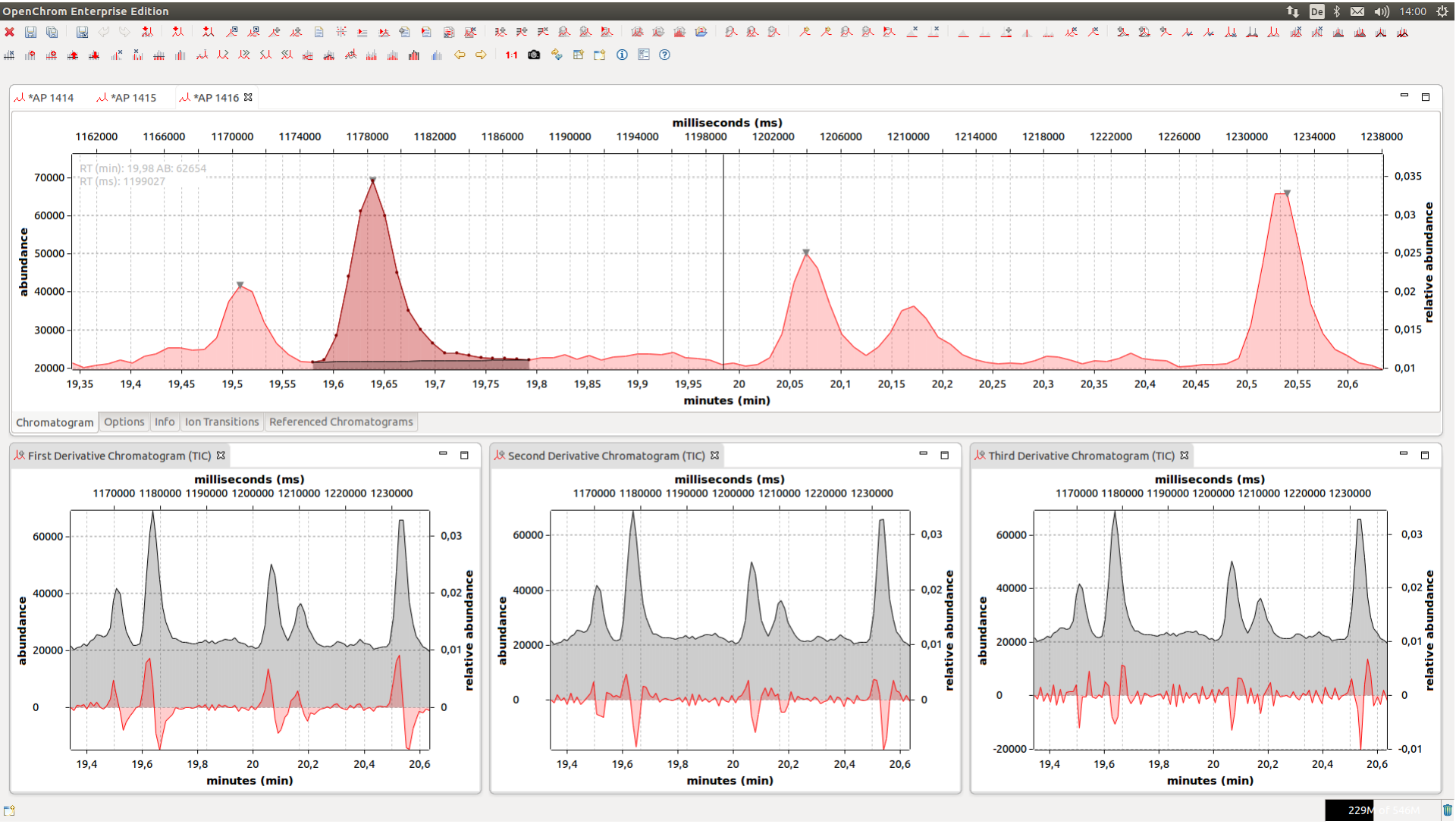
1,3-Butadiene-1-carboxylic acid 626-99-3 72,500 76,800 C(=CC=C)C(=C
Levoglucosenone 37112-31-5 69,900 72,200
1H-Imidazole-4-methanol 822-55-9 68,100 72,700 N1C=NC(=C1)
Chromatogram Heatmap
Run: AP 1416
scan
m/z
Chromatogram Overlay
Done: Peak result formulas calculated.
309M of 45


OpenChrom Enterprise Edition
*AP 1414
*AP 1415
*AP 1416
milliseconds (ms)
RT (min): 19,98 AB: 62654
RT (ms): 1199027
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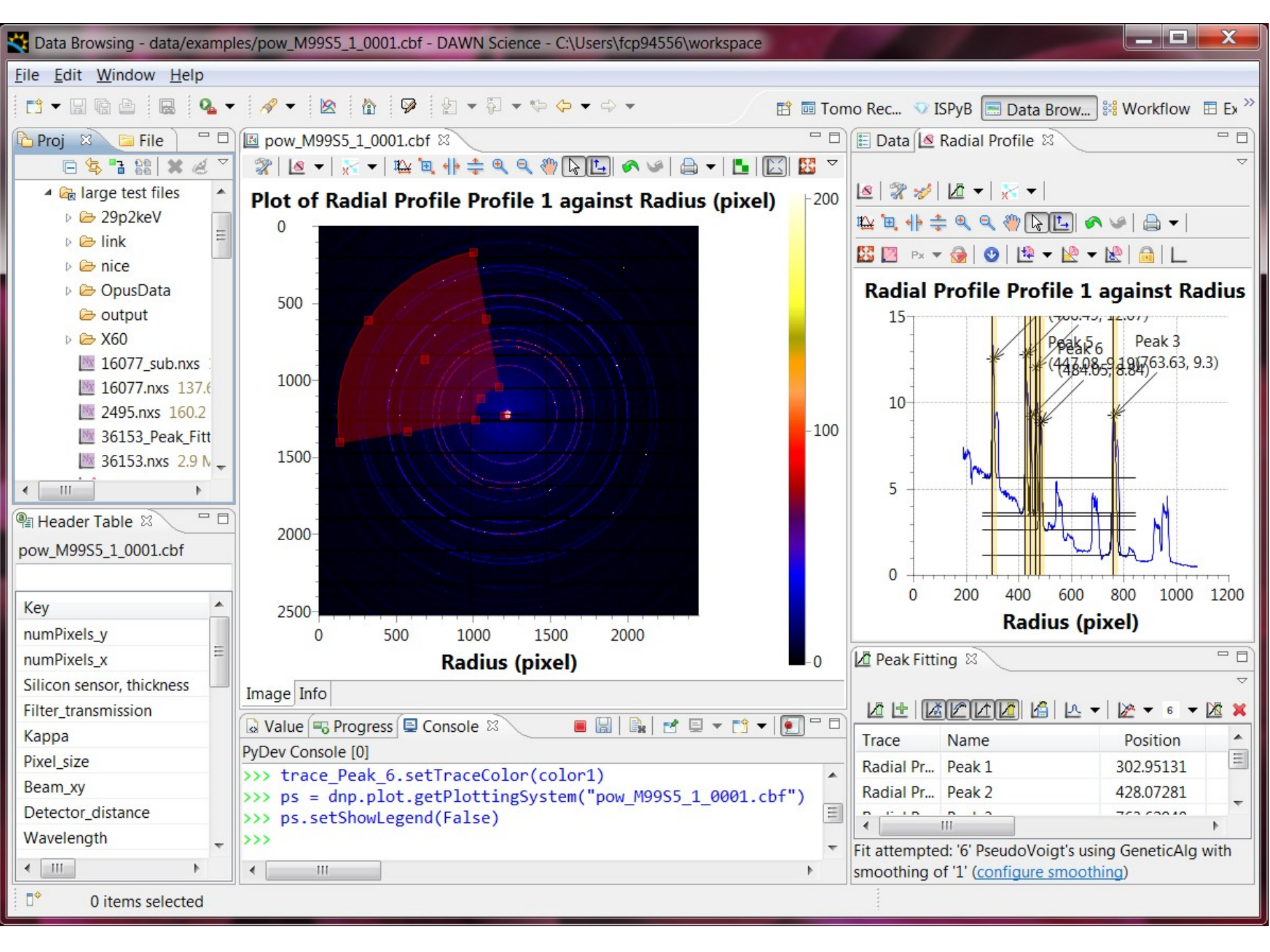
Chromatogram
Options
Info
Ion Transitions
Referenced Chromatograms
First Derivative Chromatogram (TIC)
Second Derivative Chromatogram (TIC)
Third Derivative Chromatogram (TIC)


Data Browsing - data/examples/pow_M99S5_1_0001.cbf - DAWN Science - C:\Users\fcp94556\workspace
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Proj File
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16077_sub.nxs
16077.nxs 137.6
2495.nxs 160.2
36153_Peak_Fitt
36153.nxs 2.9 M
Header Table
pow_M99S5_1_0001.cbf
Key
numPixels_y
numPixels_x
Silicon sensor, thickness
Filter_transmission
Kappa
Pixel_size
Beam_xy
Detector_distance
Wavelength
pow_M99S5_1_0001.cbf
Plot of Radial Profile Profile 1 against Radius (pixel)
0
500
1000
1500
2000
2500
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1000
1500
2000
Radius (pixel)
200
100
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Image Info
Value Progress Console
PyDev Console [0]
>>> trace_Peak_6.setTraceColor(color1)
>>> ps = dnp.plot.getPlottingSystem("pow_M99S5_1_0001.cbf")
>>> ps.setShowLegend(False)
>>>
Data Radial Profile
Radial Profile Profile 1 against Radius
15
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200
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600
800
1000
1200
Radius (pixel)
Peak 5
Peak 6
Peak 3
(763.63, 9.3)
Peak Fitting
Trace Name Position
Radial Pr... Peak 1 302.95131
Radial Pr... Peak 2 428.07281
Fit attempted: '6' PseudoVoigt's using GeneticAlg with smoothing of '1' (configure smoothing)
0 items selected

Eclipse RCP for the French Medical Research

Introduction

Till 25 years The French medical research for AIDES are leading trials of treatments or strategies of treatment on patients infected by HIV and/or hepatitis. To ensure a liable conservation, the sample collected were centralized in a big biobank which certifies the security and the quality of this precious material as the data associated.

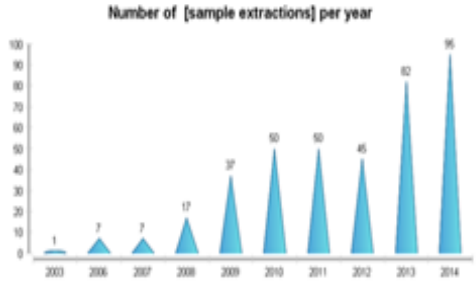
Goals

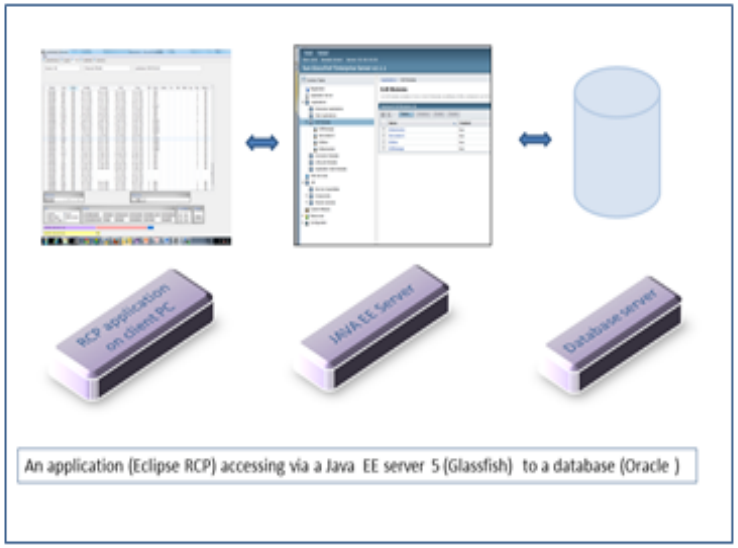
The purpose is to invent, develop and deploy a application which takes in charge the interlocked logistic and scientific process. A part of the challenge is to do an architecture solid enough to take charge of the two interlocked process and enough flexible to permit evolutions. The other part of the challenge is to offer the best service for the analysis.

How it is working

A list of rows (generally : protocol, patient or participant, date of sample , week) targeted by the analyses is confronted with the Samples Database. The programs are searching for the samples whose fit the best for those targets and establish the [Sample extraction]. As the [Sample extraction] is validated, the samples are extracted form the biobank .

Each [Sample extraction] conducts to an analysis, this leading to a publication in congress and/or scientific press.



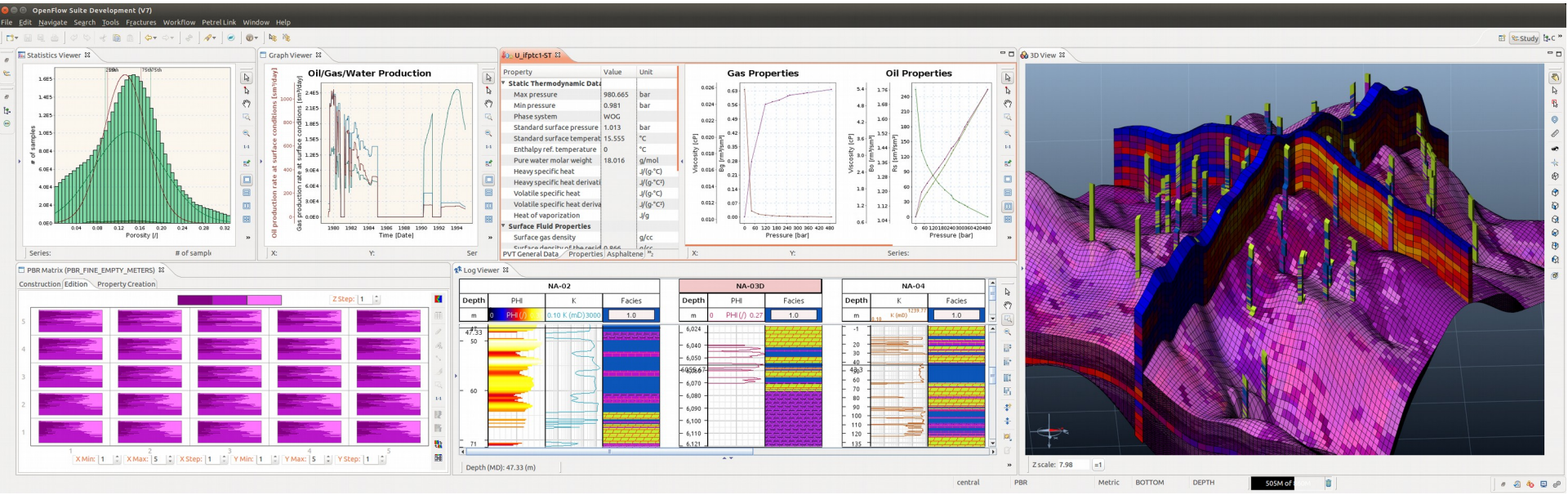


Eclipse RCP can be used for a dynamic and innovative process using

- **power & strength from a Oracle database,**
- **flexibility from eclipse RCP application**
- **security from a Glassfish Server**

- Oracle provides the strength and the persistence of a structured relational database (data tier).
- RCP plug-in offers all the features to develop ergonomic interfaces (presentation tier).
- The server Glassfish is mapping and hosting the EJB Beans (logical tier)

* The french medical research for AIDES includes **INSERM** (Institut National de Santé et de Recherche Medicale) and **ANRS** (France Recherche Nord&Sud Sida-HIV Hépatites)


OpenFlow Suite Development (V7)
File Edit Navigate Search Tools Fractures Workflow Petrel Link Window Help
Statistics Viewer
# of samples
Porosity [/]
Graph Viewer
Oil/Gas/Water Production
Oil production rate at surface conditions (sm³/day)
Gas production rate at surface conditions (sm³/day)
Time [Date]
U_ifptc1-ST
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Unit
Static Thermodynamic Data
Max pressure
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bar
Min pressure
0.981
bar
Phase system
WOG
Standard surface pressure
1.013
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Standard surface temperat
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°C
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3D View
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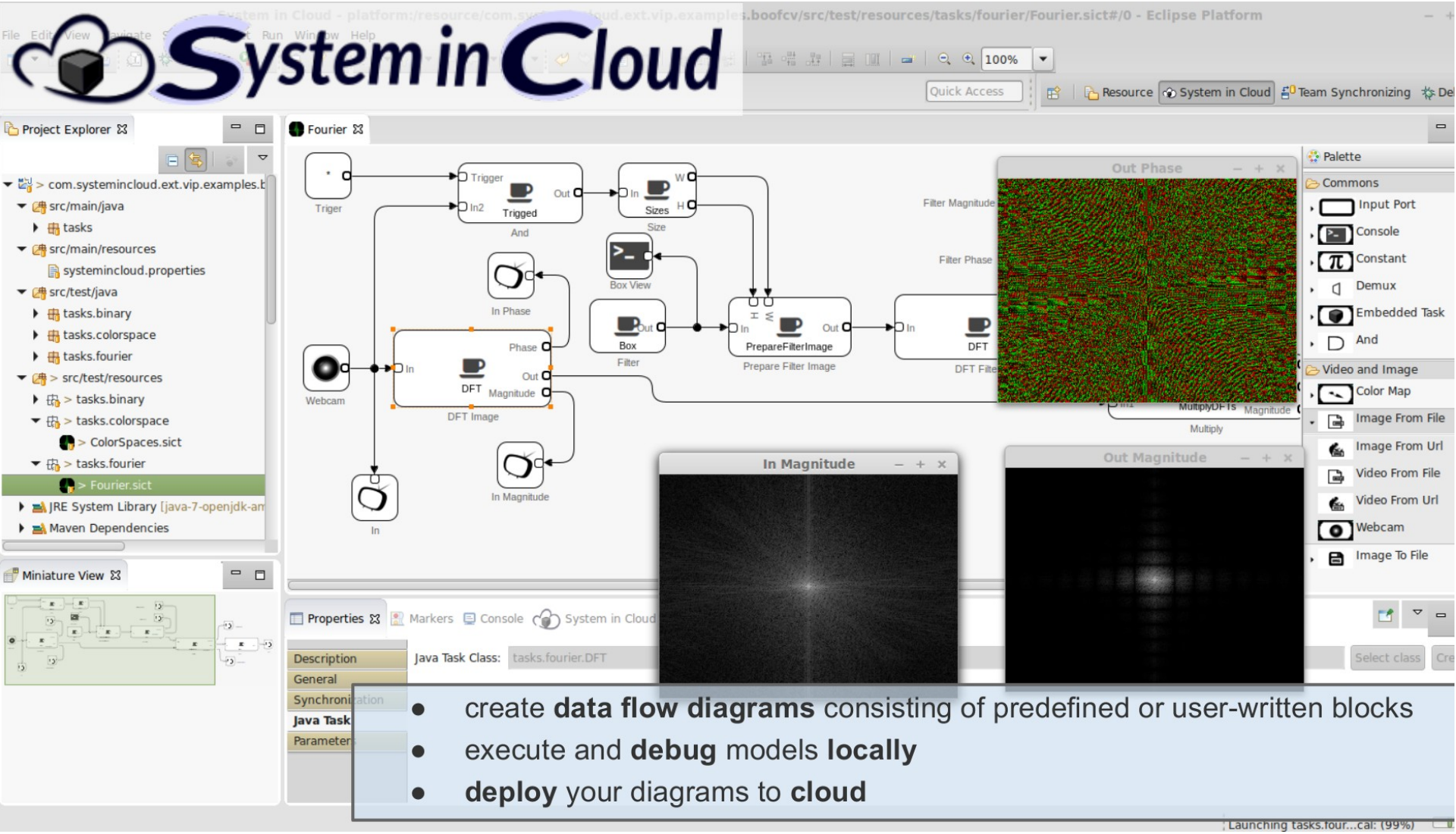
System in Cloud
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Fourier
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Commons
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Demux
Embedded Task
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Video and Image
Color Map
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Image From Url
Video From File
Video From Url
Webcam
Image To File
Out Phase
In Magnitude
Out Magnitude
Miniature View
Properties
Markers
Console
Description
General
Java Task
Java Task Class:
tasks.fourier.DFT
create data flow diagrams consisting of predefined or user-written blocks
execute and debug models locally
deploy your diagrams to cloud

UOMo – Units of Measurement

Science, Health/Fitness, QS

Smart Pill Boxes

Near field

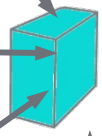
Heartbeat Sensor

Weight Scales

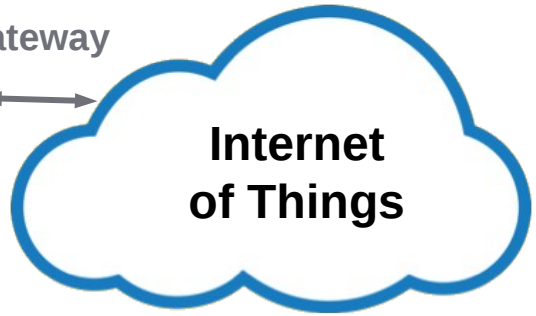
Blood Pressure

Blood Sugar

Medical Smart Services Gateway



Internet of Things



[OGC Sensor Web Enablement](#)

- SensorML
- O&M
- TransducerML
- GeographyML

Units of Measurements

[Unicode Consortium](#)

- CLDR
- ICU4J

[Java Community Process](#)

- JSR 275 / JSR 363

[UCUM/Regenstrief](#)

- Unified Code for Units of Measure

Any Questions?

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