

**trkNavigator:
A Java client for the Tracker DB**

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What it does

trkNavigator is a Java client which retrieves single tracker object information from the tracker database, allowing to:

i) select one sample of objects (sensors, hybrids, modules, apvs) according to ID (part of ID, qualification result ...)

ii) show:

⇒ basic object information (type, description, location, last action performed)

⇒ contained objects according to the OBJECT_ASSEMBLY table

⇒ main qualification tests performed

iii) Browse tests according to the composite structure

Why

It is an analysis-oriented tool:

⇒ Browse the DB on a “per object” basis

⇒ keep ID typings at a minimum

⇒ make full test information available, following the DB table structure

⇒ general:

- any object appearing in the OBJECT_ASSEMBLY table will be shown
- any test described in the ACTION_DESCRIPTION table may be inserted

⇒ Plots:

- either scatter plots or histos (rebinnable)
- plot interface based on JAS. May adjust appearance (Axis, labels, binning,...)
- may be exported to text files (easy to import into excel)

⇒ **It is Java: in the future may be inserted into the BigBrowser**

Installation

Download and install instructions at:

<http://hep.fi.infn.it/CMS/testres/trkNavigator>

(assume you have BigBrowser installed)

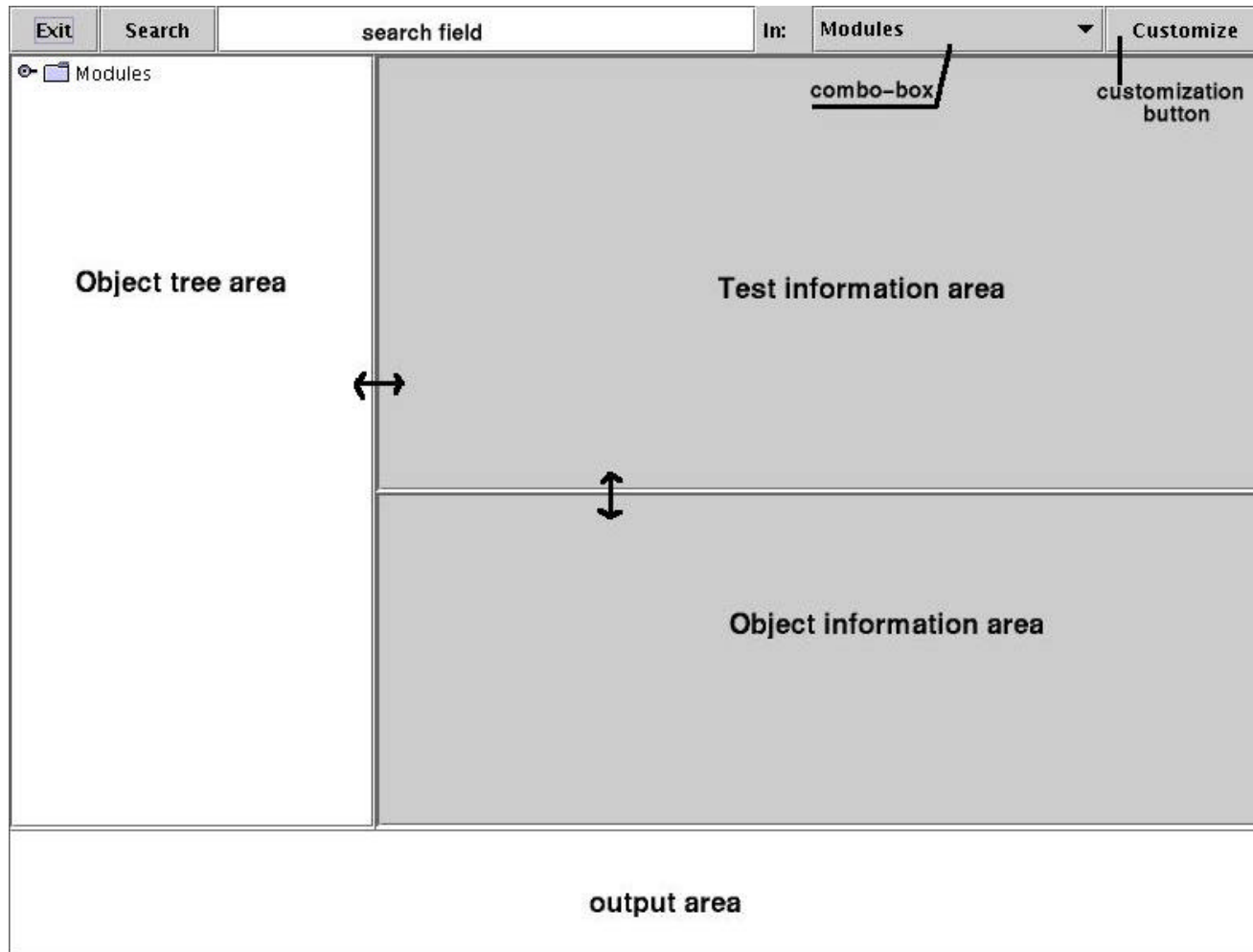
For the “experts”: just need JRE installed (<http://java.sun.com>); include dbmod.jar, jas.jar xercesImpl.jar in the classpath and run “java dbmod/DBModules”

Manual:

<http://hep.fi.infn.it/CMS/testres/trkNavigator/manual/manual.html>

Please test it and send me feedback/comments

How it works ...



1) Select here the kind of object defining the sample

2) type here the ID or part of the ID (or nothing at all !)

3) Press the search button

4) Choose one object

The object information is displayed here

Contained objects

Composite tests for this object

5) click on any of the red links to the tests ... (only composite actions here)

The screenshot shows a software interface with a search bar at the top containing '032' and a 'Search' button. Below the search bar is a tree view of 'Modules' with several entries, one of which is selected. To the right is a dropdown menu for 'Modules' with options like 'Any Object', 'Modules', 'Sensors', etc. Below these is a table of object information.

Basic Object Information:	
objectId	30200020000032
Name - Type - Version	MOD - 1.2.4.1 - 1
description	IB_L34P.4D
Location:	FIRENZE since 2003-09-12 16:20:18.0
Last Action:	MOVBOND with status ready
Contained objects:	
---	HYB 30216681501014
---	SEN 30220226124377
Tests on this Object:	
Gantry Valid.	??
Bonding	??
L.T. Summary	??
L.T. first	??
L.T. cold	??
L.T. last	??
Mod. Validation	??

Composite Action

Test result value

Links to base-actions available here

Basic test information

Exit Search 032 In: Modules

Modules

- MOD 30200020000328
- MOD 30200020000329
- MOD 30200020000327
- MOD 3020002000032
- MOD 30200020001032

TableName:	MODVALIDATION_1_MOD_
QueryStatus:	isRetrieved
composite:	YES
Test ID:	23164
Object_id:	3020002000032
ParentAction:	MODVALIDATION
Tool_id:	202
Input_id:	770
TDate:	2003-09-12 18:51:09.0
Operator:	
Status:	reference
comment:	
MODVALIDATION_val	:0:
MODULBASIC	:0:
	Plots:
--	ped-Histo
--	noise-Histo
--	rawnoise-Histo
--	ped-Scatter
Bonding	??
L.T. Summary	??
L.T. first	??
L.T. cold	??
L.T. last	??
Mod. Validation	:0:

Green links to plot interfaces

Basic Action: measurements are shown in blue (units are shown within “[]”, if present in the ACTION_DESCRIPTION table). By clicking on blue links the measurement content is printed in the output area at the bottom of the screen (may select into the clipboard)

The screenshot shows a software interface with a search bar containing '032' and a dropdown menu set to 'Modules'. On the left, a tree view shows a folder 'Modules' containing several files, with 'MOD 30200020000032' selected. The main area displays a table of measurements:

TempExt	27 [degC]
HumSetup	25.5 [RH]
HumExt	5 [RH]
TempHybDcu	158 [adc]
TempHybNtsc	250 [adc]
TempSenNtsc1	255 [adc]
TempSenNtsc2	255 [degC]
TempSenNtsc1Dcu	8191 [adc]
Ihyb25	0.5 [mA]
Ihyb125	0.2 [mA]
Vhyb25	2.5 [volts]
Vhyb125	1.2 [volts]
Vhyb25Dcu	2767 [adc]
Vhyb125Dcu	2668 [adc]
HVbias	400 [volts]
IleakDcu	19 [nA]
Ileak	233 [number]
apvModePed	15 [adc]
pedestal	(click to print) [adc]
noise	(click to print) [adc]
rawnoise	(click to print) [adc]
avgpedestal	65.1 [adc]
sgpedestal	3.6 [adc]
Bonding	??
L.T. Summary	??
L.T. first	??

At the bottom of the interface, there is a grid of numbers:

620	600	577	566	550	557	575	571	572	567	559	561	578	546	584	572	570	571	564	571	573	558	565	554	574	564	559	567	572
14	12	12	12	13	12	12	12	12	12	12	12	13	13	12	12	12	12	12	12	12	12	12	12	12	12	12	13	12
15	13	13	12	13	13	13	13	12	12	12	13	13	13	12	12	12	13	13	12	12	13	12	12	12	12	13	12	13

Color codes

Red links: bring either to Tests or to other tracker objects (when you click it, something else is shown)

Blue links: print the raw data for one measurement into the output area at the bottom of the interface (may be useful when data is too long to be shown on the table: in this case the “click to print” is shown inside the table).

Green links: make the relative plot appear in a separate frame.

Tests

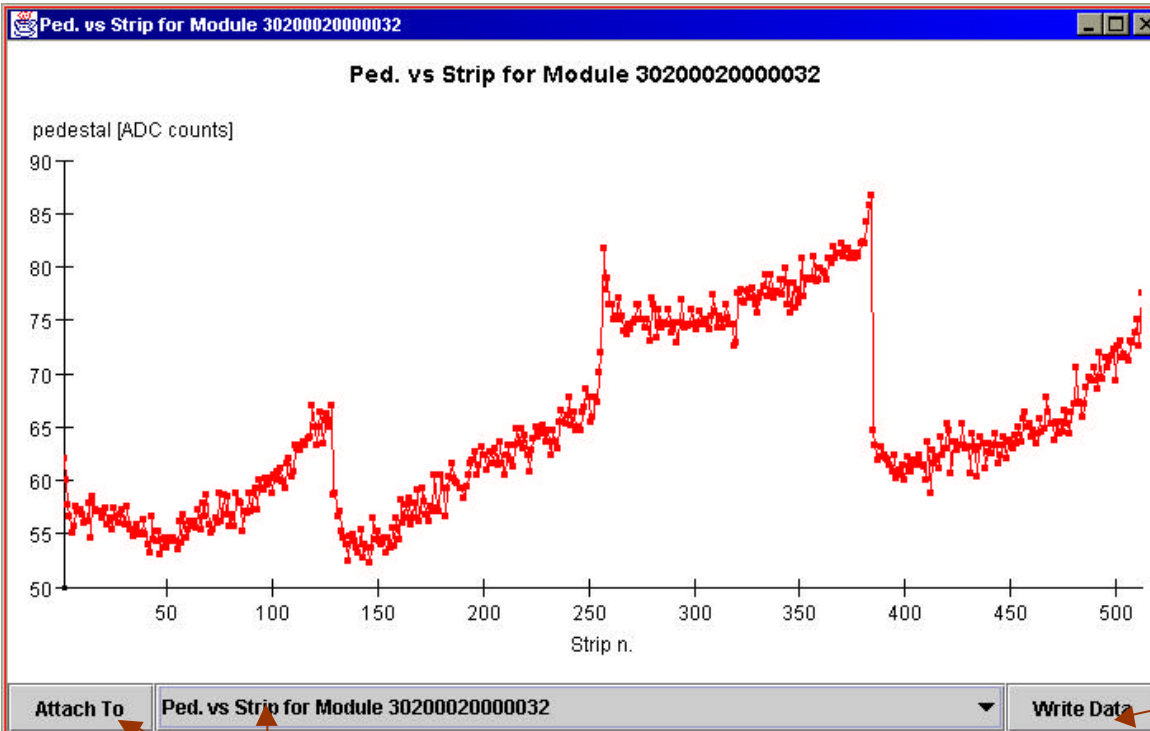
- “??” means that the application did not yet try to look for that test in the database
- “:0:” means that the application did find the test in the DB and the test result is shown
- “(none)” means that the test is not registered in the DB
- “(running)” means that the test has running status, so the test result is not yet defined

Information related to module validation and long-term tests is presently searched in the “Test” database instead of the “Production” database.

By default only tests with “reference” status are shown. This can be changed by enhancing the depth of the test searches via the “Customization” button. In any case, the application will show the most recent test with the higher priority (in the order: reference > running > valid) existing in the database.

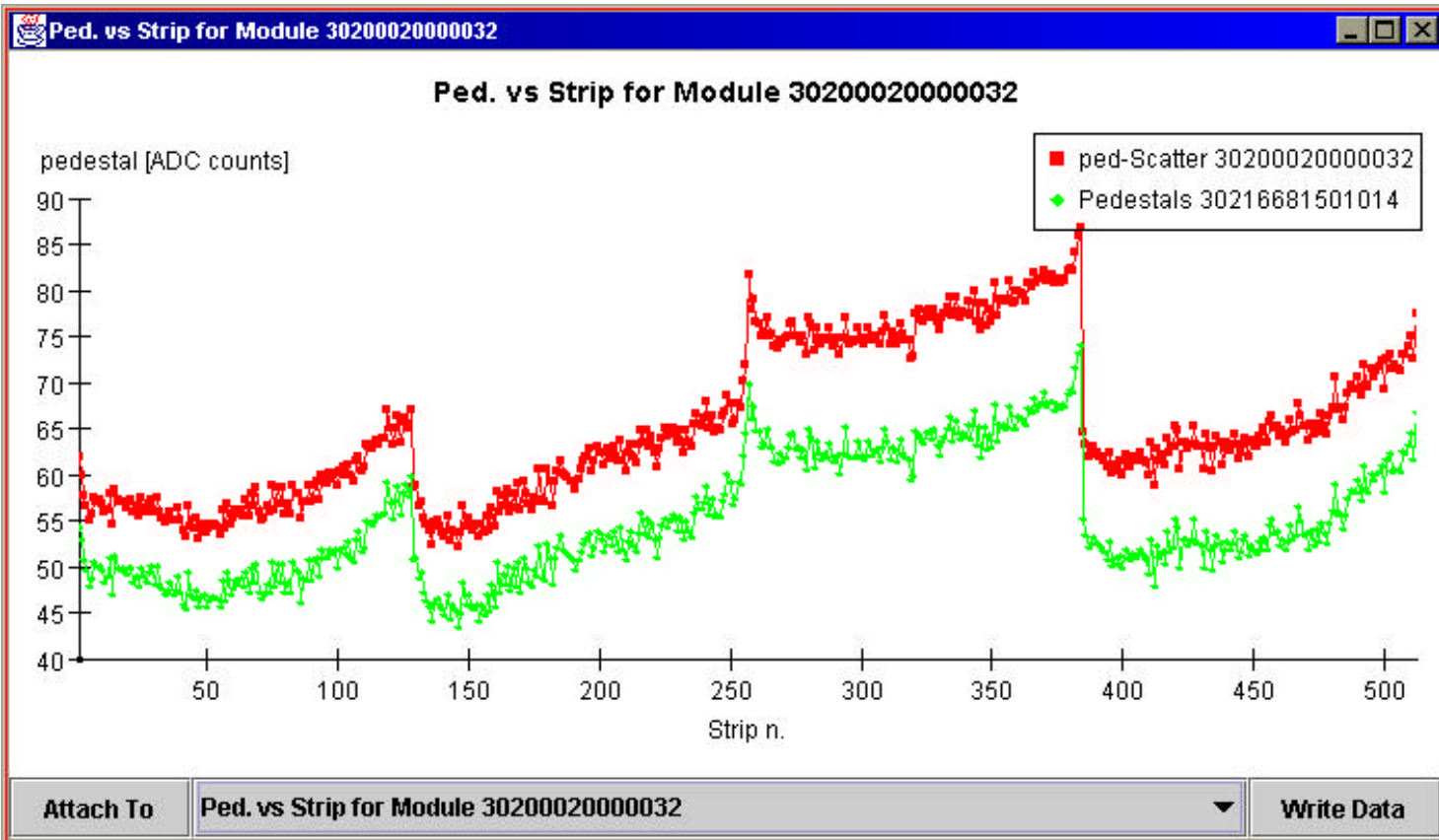


Plot interface



Use the "WriteData" button to write plot data into ASCII format (may later import it inside excel) File plot.txt inside the directory where the application is running.

Use these to over-impose this plot to another one



Hybrid Information

Exit Search 032 In: Modules Customize

Modules

- MOD 30200020000328
- MOD 30200020000329
- MOD 30200020000327
- MOD 30200020000032**
- MOD 30200020001032

Tablename:	HYBMEASUREMENTS_1_HYB_
QueryStatus:	isRetrieved
composite:	YES
Test ID:	128834
Object_id:	30216681501014
ParentAction:	HYBMeasurements
Tool_id:	1
Input_id:	517
TDate:	2003-07-31 16:13:12.0
Operator:	
Status:	running
comment:	
	Measurements:
HYBMEASUREMENTS_val	
	Sub-Tests:
FHITMEASUREMENT	:0:
FHITCALIBRATION	??
HYBMETROLOGY	??
TESTWITHPA	:0:
Name - Type - Version	HYB - 1.1.2.300 - 1
description	IB_300.4D
Location:	BARI since 2003-08-30 11:49:47.0
Last Action:	Assembly with status ready
contained in:	30200020000032
	Tests on this Object:
Bonding	(none)
Measurements	(running)

Sensor information

Exit Search 032 In: Modules Customize

Modules

- MOD 30200020000328
- MOD 30200020000329
- MOD 30200020000327
- MOD 30200020000032**
- MOD 30200020001032

TDate:	2002-07-05 17:38:55.0
Operator:	laura
Status:	reference
comment:	
VALIDATION_val	:0:
MTEST	:0:
CVTEST	:0:
RPOLY	:0:
IDIEL	:0:
CAC100HZ	:0:
ISTRIP	:0:
INSPECTION	:0:
STRIPSCANSUMMARY	:0:
	Plots:
--	IV
--	CV
--	I-Histo
Name - Type - Version	SEN - 2.1 - 1
description	IB2
Location:	BARI since 2003-08-30 11:49:48.0
Last Action:	Assembly with status ready
contained in:	30200020000032
	Tests on this Object:
Validation (1)	:0:
Validation (2)	(none)

Sensor Batch

Allows to access PQC information

The screenshot shows a software window titled "SensorBatch" with a search bar containing "302202261243". The interface is split into three panes:

- Left Pane:** A list of sensors and tests. Under "Known Sensors", there are 10 entries with IDs from 30220226124364 to 30220226124377. Under "Known tests", there are 7 entries for "PQC of 30220226124364" with IDs from 30220226124364 to 30220226124376.
- Right Pane:** Detailed information for a selected sensor. Fields include:
 - Tool_id: 43
 - Input_id: 132
 - TDate: 2003-04-29 15:20:01.0
 - Operator: (empty)
 - Status: reference
 - comment: (empty)
 - Measurements: (empty)
 - Sub-Tests: (empty)
 - Plots: IV, CV, Cmos-V, Isurf-V, Cac-Histo

Conclusions

- trkNavigator is an analysis tool which allows to retrieve single-object information from the tracker DB
- it is a stand-alone tool which connects to the tracker DB through the relay application
- it will be imported inside the BigBrowser
- still refining it: please let me have your comments/requirements
 - “general” tool: information is displayed according to the DB table structure for any object
 - no “customization” of information will be performed