

EPICS Collaboration Meeting, DLS, Spring 2013

EPICS V4 data integration into CSS *(was demo)*

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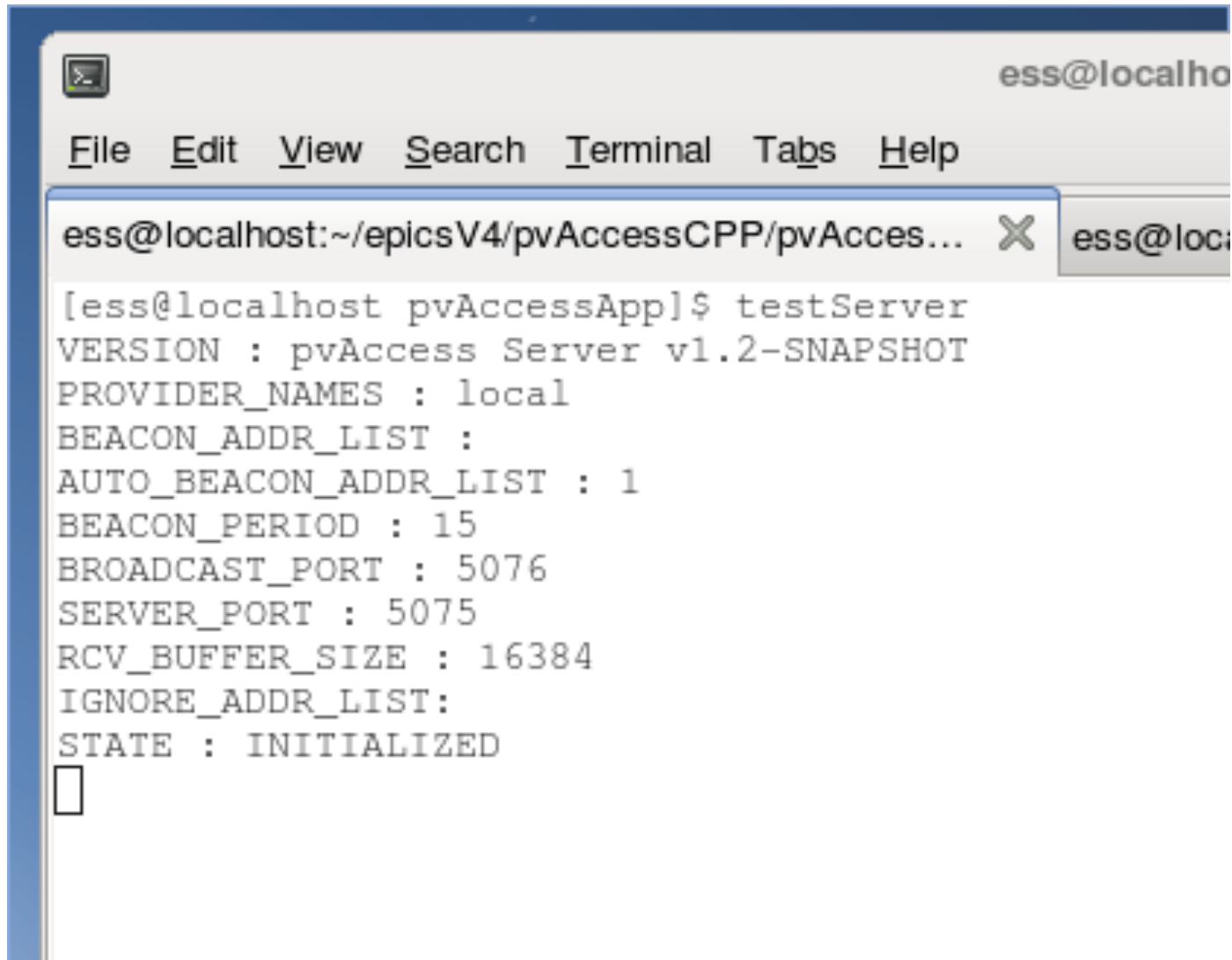
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- ❑ pvAccess data-source plugin written for pvManager
 - supports mappings of EPICS v4 normative types to pvManager VType, e.g.
 - scalars, arrays of scalars, enums, tables, matrices, image

- ❑ This gives you all the features CA plugin supports plus much more

- ❑ ... by much more I mean structured data (tables, matrices, images, statistics, ...)

A screenshot of a terminal window titled "ess@localho". The window has a menu bar with "File", "Edit", "View", "Search", "Terminal", "Tabs", and "Help". The terminal content shows the command "testServer" being executed, resulting in the following output:

```
[ess@localhost pvAccessApp]$ testServer
VERSION : pvAccess Server v1.2-SNAPSHOT
PROVIDER_NAMES : local
BEACON_ADDR_LIST :
AUTO_BEACON_ADDR_LIST : 1
BEACON_PERIOD : 15
BROADCAST_PORT : 5076
SERVER_PORT : 5075
RCV_BUFFER_SIZE : 16384
IGNORE_ADDR_LIST:
STATE : INITIALIZED
```

A cursor is visible at the end of the last line of output.

```
[ess@localhost pvAccessCPP]$ pvget testRandom  
testRandom -25.3504
```

```
[ess@localhost pvAccessCPP]$  
[ess@localhost pvAccessCPP]$ pvget -r "" testRandom  
testRandom  
uri:ev4:nt/2012/pwd:NTScalar  
  double value -27.2149  
  alarm_t alarm  
    int severity 0  
    int status 0  
    string message  
  time_t timeStamp  
    long secondsPastEpoch 1367252933  
    int nanoSeconds 481965871  
    int userTag 0  
  display_t display  
    double limitLow 0  
    double limitHigh 100  
    string description Random noise  
    string format %.3f  
    string units  
  control_t control  
    double limitLow 0  
    double limitHigh 0  
    double minStep 0  
  valueAlarm_t valueAlarm  
    boolean active 0  
    double lowAlarmLimit 0  
    double lowWarningLimit 0  
    double highWarningLimit 0  
    double highAlarmLimit 0  
    int lowAlarmSeverity 0  
    int lowWarningSeverity 0  
    int highWarningSeverity 0  
    int highAlarmSeverity 0  
    double hysteresis 0
```

```
[less@localhost pvAccessCPP]$ pvget -m testRandom
testRandom          -7.78998
testRandom          -7.78998
testRandom          -6.79506
testRandom          -5.88501
testRandom          -5.39144
testRandom          -5.36057
testRandom          -6.26178
testRandom          -6.25973
testRandom          -6.64968
testRandom          -6.98866
testRandom          -6.17986
testRandom          -6.98395
testRandom          -6.39817
testRandom          -7.30508
testRandom          -6.99446
testRandom          -6.20414
testRandom          -5.71411
^C
[less@localhost pvAccessCPP]$
```

```
[ess@localhost pvAccessCPP]$ pvget -m -r "value,timeStamp,alarm" testRandom
testRandom
structure
  double value 3.47781
  time_t timeStamp
    long secondsPastEpoch 1367252272
    int nanoSeconds 377482460
    int userTag 0
  alarm_t alarm
    int severity 0
    int status 0
    string message

testRandom
structure
  double value 3.75812
  time_t timeStamp
    long secondsPastEpoch 1367252272
    int nanoSeconds 477883819
    int userTag 0
  alarm_t alarm
    int severity 0
    int status 0
    string message
```

```
[ess@localhost pvAccessCPP]$ pvget -mt -r "value,timeStamp,alarm" testRandom
testRandom      -6.0587 1367252308 754329852 0 0 0
testRandom      -5.12313 1367252308 854623331 0 0 0
testRandom      -5.14675 1367252308 954984308 0 0 0
testRandom      -4.16431 1367252309 55315066 0 0 0
testRandom      -3.36796 1367252309 155822699 0 0 0
testRandom      -3.11499 1367252309 256219270 0 0 0
testRandom      -2.58987 1367252309 356668613 0 0 0
testRandom      -2.31858 1367252309 457098027 0 0 0
testRandom      -1.48024 1367252309 557682861 0 0 0
testRandom      -0.89705 1367252309 658113590 0 0 0
testRandom      -0.440366 1367252309 758495552 0 0 0
testRandom      -0.599411 1367252309 858882938 0 0 0
testRandom      -0.410833 1367252309 959433413 0 0 0
testRandom      -0.851044 1367252310 59842555 0 0 0
testRandom      -1.8498 1367252310 160428851 0 0 0
testRandom      -1.70099 1367252310 260945098 0 0 0
testRandom      -1.24175 1367252310 361453564 0 0 0
```



```
[ess@localhost pvAccessCPP]$ eget pva:///testNTTable?rows=7\&columns=5
  column0      column1      column2      column3      column4
0.102727      1.4798      2.25322     3.32495     4.29152
0.68826      1.76438     2.82776     3.39369     4.72686
0.904374     1.02085     2.68367     3.23207     4.78943
0.969754     1.80878     2.46714     3.22932     4.31237
0.993747     1.25715     2.62356     3.36345     4.53565
0.921064     1.39996     2.36217     3.22582     4.04658
0.779359      1.9914     2.38598     3.15039     4.71233
0.0212456    1.69929     2.22692     3.14281     4.52705
0.874657     1.82368     2.29097     3.24706     4.74587
0.148716     1.41529     2.54381     3.02505     4.53601

[ess@localhost pvAccessCPP]$
```

pva://testRandom

PV Formula: pva://testRandom

Value: -4.433

Timestamp: 2013/04/29 18:30:28.598655271 +0200

New value: -4.433

Type: VDouble

Display limits: 0.000 - 100.000



Alarm limits: 0.000 - 0.000

Warning limits: 0.000 - 0.000

Control limits: 0.000 - 0.000

Unit:

Status: Connected


Navigator  arrayOf(pva://testCounter, 10 * sim://noise + pva://testCounter) 

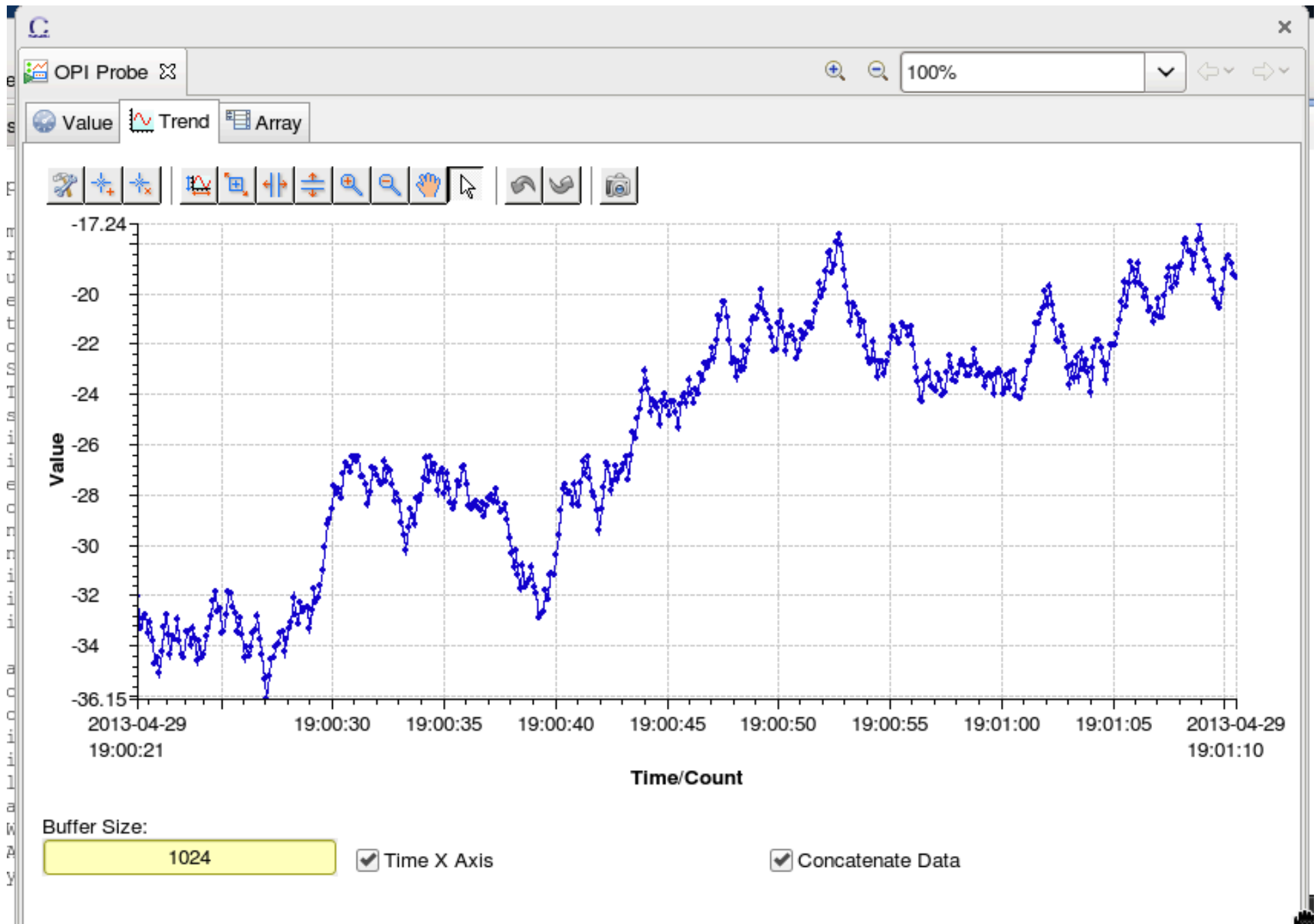
PV Formula: arrayOf(pva://testCounter, 10 * sim://noise + pva://testCounter)

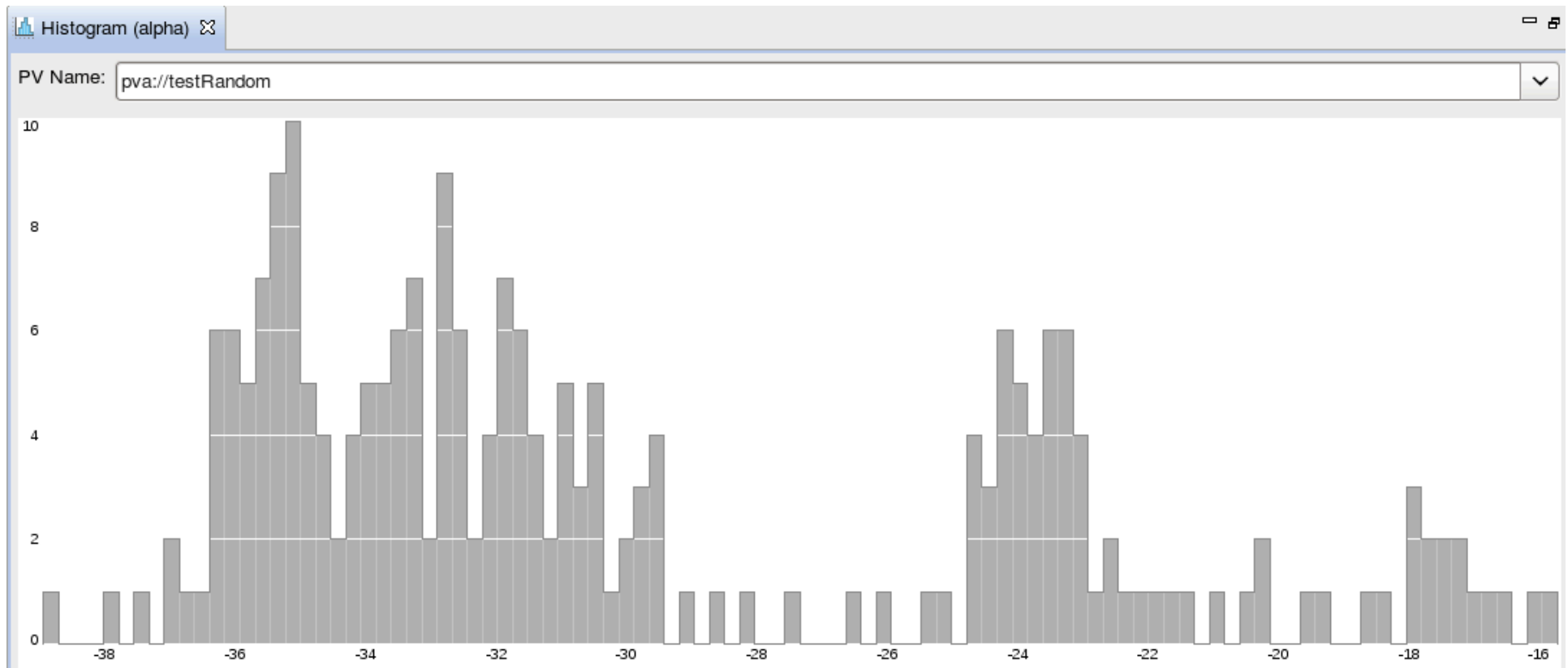
Value: [500.0, 529.5729018252155]

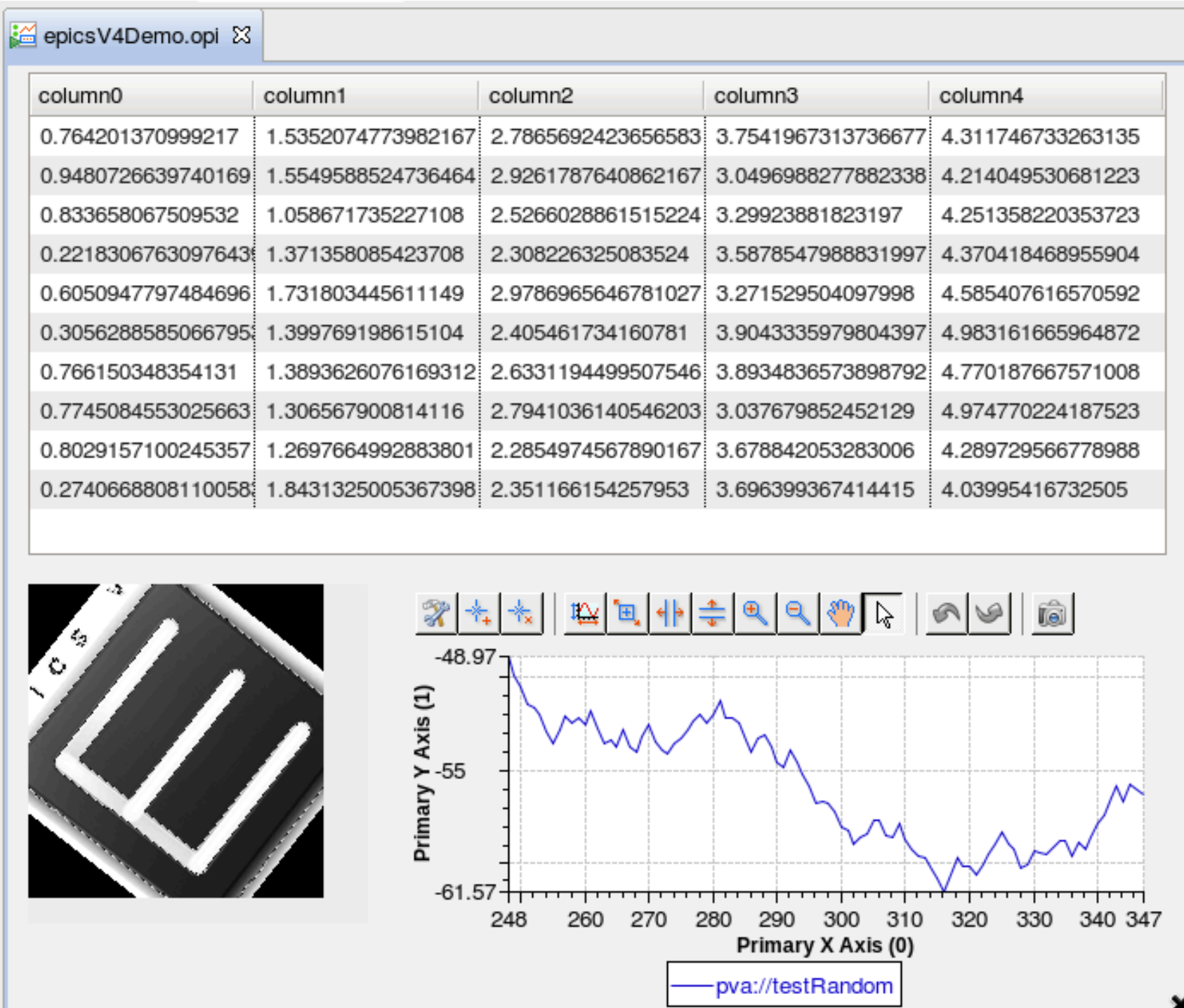
Timestamp: 2013/04/29 18:33:34.632635298 +0200

New value: [500.0, 529.5729018252155]

 Read-only formula







THANK YOU!

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