Reporte de Actividades

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Activities Carried Out

Report of the DCS Archive Simulator

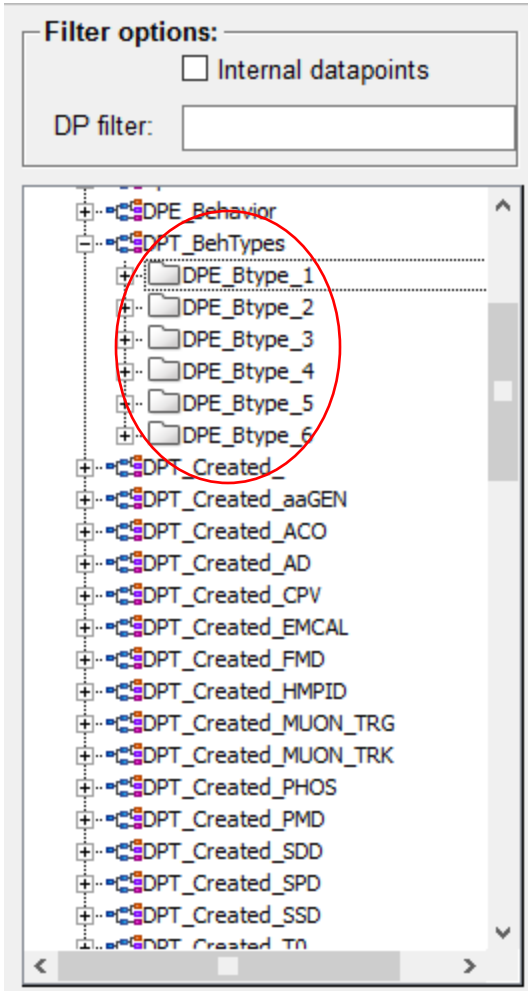
Generation of the specified DPEs by type to a detector

Creation, definition and initialization of the DPT, DP and DPI behavior by type in a user panel

Defining behavior conditions

Classification of DPEs by types: by detector or general:

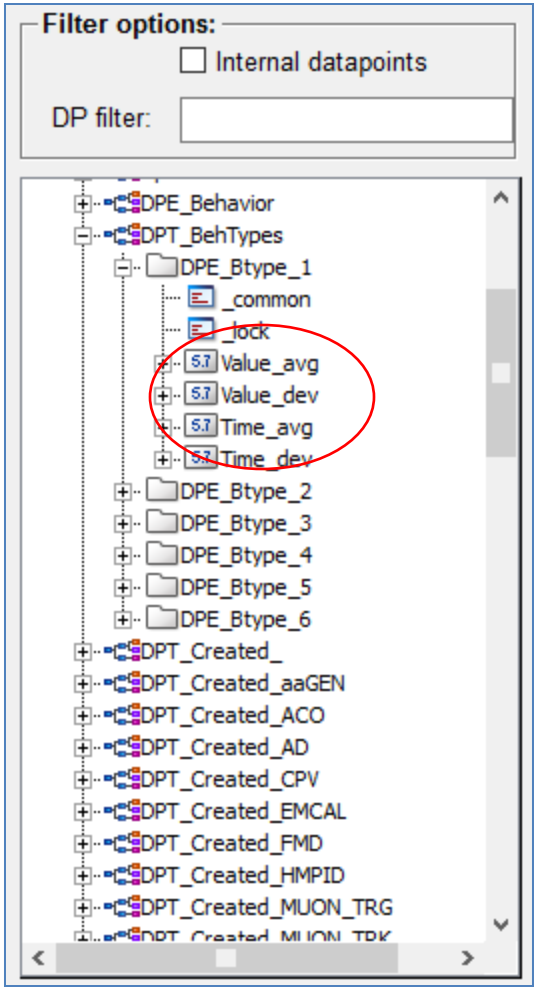
Description of the DPEs types	DPs
HV Voltage	DPE_Btype_1
HV Current	DPE_Btype_2
LV Voltage	DPE_Btype_3
LV Current	DPE_Btype_4
Temperature sensors	DPE_Btype_5
Pressure Sensors	DPE_Btype_6



Defining behavior conditions

Parameters to define behavior conditions of the DPs of each type:

Parameters of behavior conditions	DPs
Average nominal value of the DPEs types	Value_avg
Percentage of deviation of the nominal value	Value_dev
Average time of sending to the DCS archiving	Time_avg
Percentage of deviation of the sending time to the DCS archiving	Time_dev



Defining behavior conditions

Data Point Types (DPT)

- **DPT_BehTypes** (*Behavior panel*) => **DPT**

DP:

DPE_Btype_1

.

.

.

DPE_Btype_6

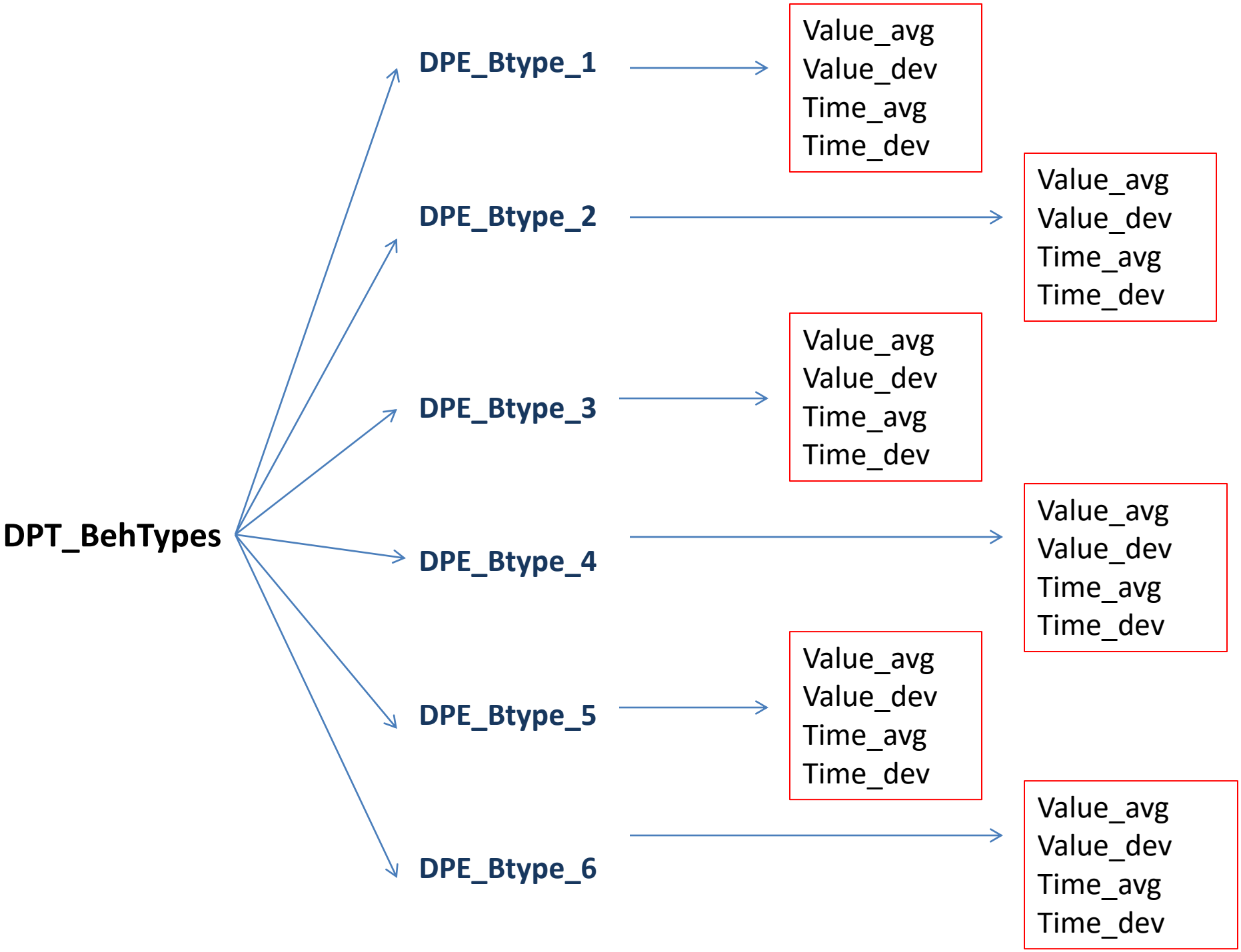
DPE:

Value_avg

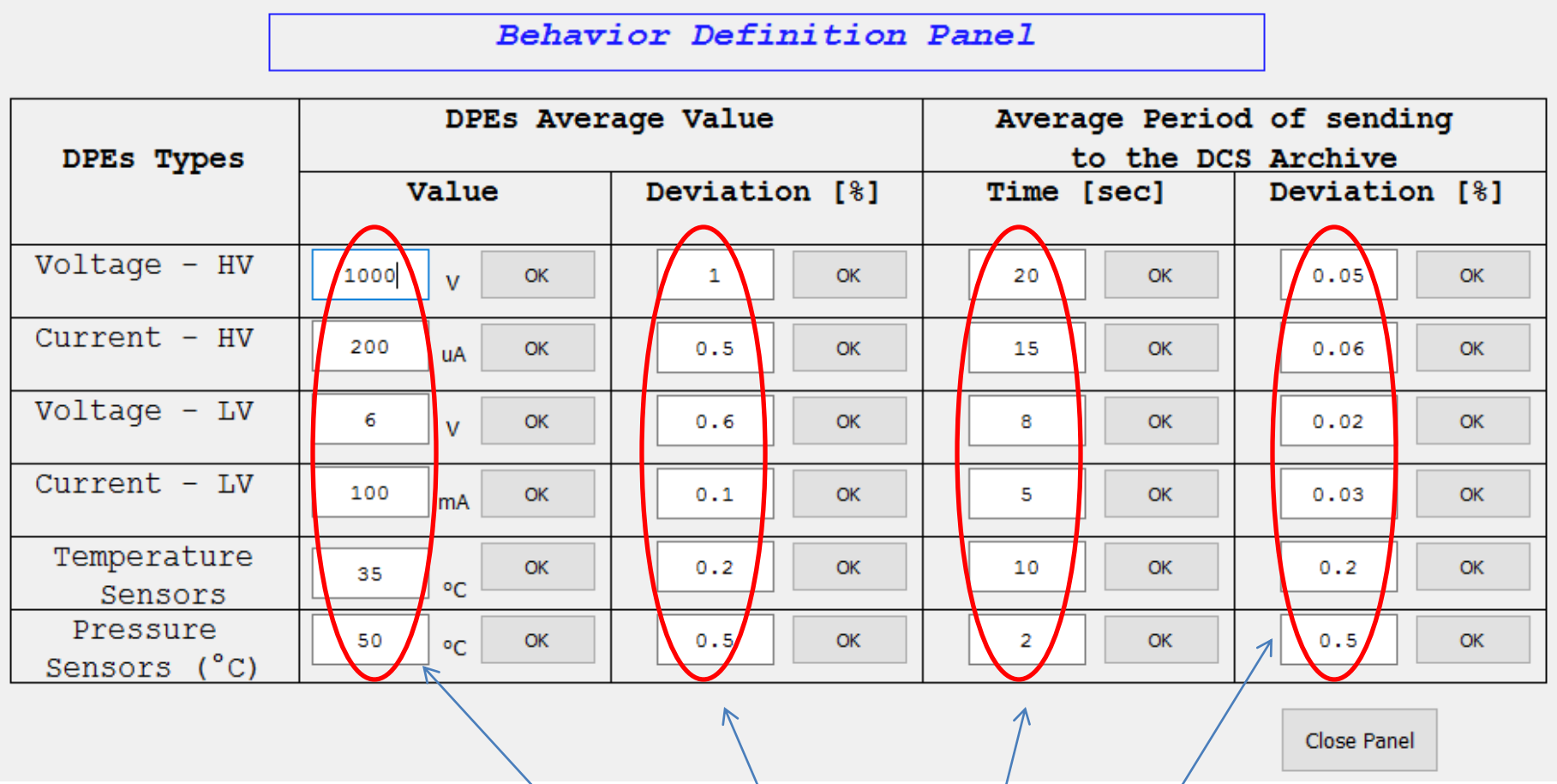
Value_dev

Time_avg

Time_dev


DPT_BehTypes
DPE_Btype_1
DPE_Btype_2
DPE_Btype_3
DPE_Btype_4
DPE_Btype_5
DPE_Btype_6
Value_avg
Value_dev
Time_avg
Time_dev
Value_avg
Value_dev
Time_avg
Time_dev
Value_avg
Value_dev
Time_avg
Time_dev
Value_avg
Value_dev
Time_avg
Time_dev
Value_avg
Value_dev
Time_avg
Time_dev
Value_avg
Value_dev
Time_avg
Time_dev

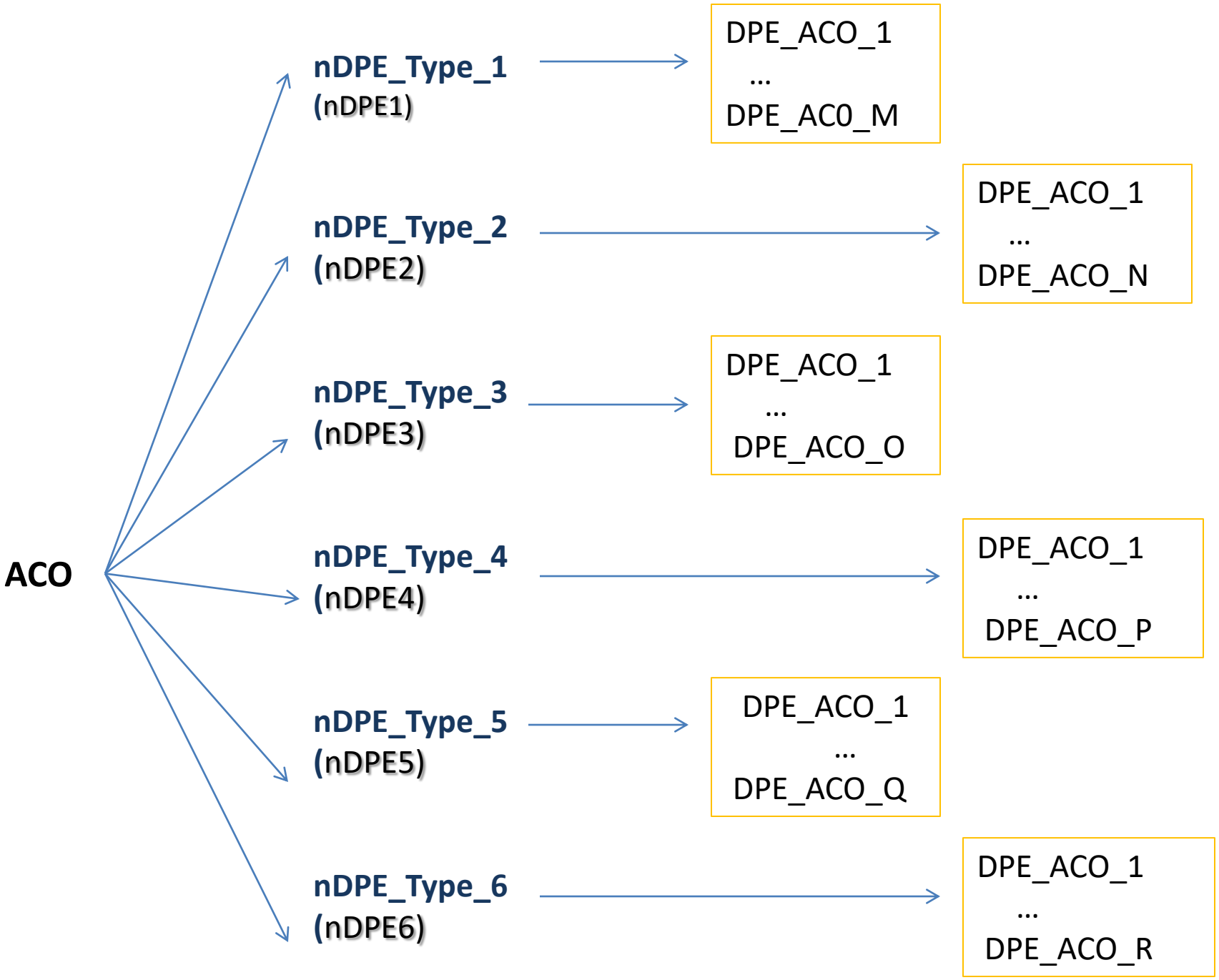
Entering the behavior conditions using a user interface



Definition of the nominal values and sending times to the DCS archiving of the DP's by Type

Algorithm to generate random values

- Developing a nominal function to generate random nominal values (Value_F) and random times (Time_F) of the DPEs using:
  - *Average nominal values of the DPEs types* (Value_avg) *and their deviations* (Value_dev)
  - *Average times of sending to the DCS archiving* (Time_avg) *and their deviations* (Time_dev).


ACO
nDPE_Type_1
(nDPE1)
DPE_ACO_1
…
DPE_AC0_M
nDPE_Type_2
(nDPE2)
DPE_ACO_1
…
DPE_ACO_N
nDPE_Type_3
(nDPE3)
DPE_ACO_1
…
DPE_ACO_O
nDPE_Type_4
(nDPE4)
DPE_ACO_1
…
DPE_ACO_P
nDPE_Type_5
(nDPE5)
DPE_ACO_1
…
DPE_ACO_Q
nDPE_Type_6
(nDPE6)
DPE_ACO_1
…
DPE_ACO_R

Creation, definition and initialization of the number of DP’s by type in a user panel

Entering the DPEs Number by type

- Two types of simulations are defined:
  - ALICE Detectors: Specifying the DPEs number by type in each detector.
  - General Form: Entering a specific number of DPEs by type with no detectors defined.

Entering the DPEs Number by type

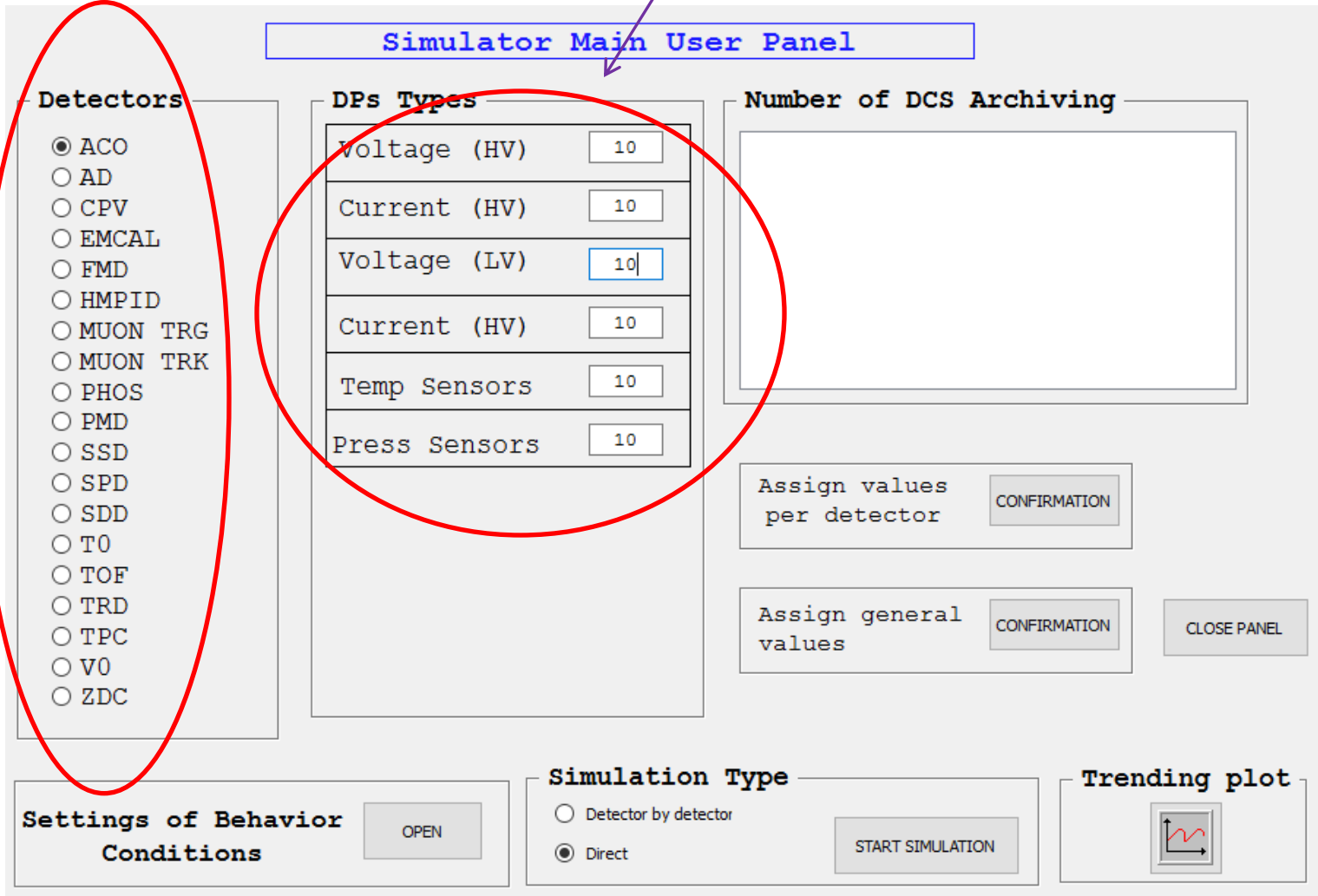
- ALICE detectors included in the simulation:

ALICE detectors		
ACO	MUON TRK	TOF
AD	PHOS	TRD
CPV	PMD	TPC
EMCAL	SSD	V0
FMD	SPD	ZDC
HMPID	SDD	
MUON TRG	T0	

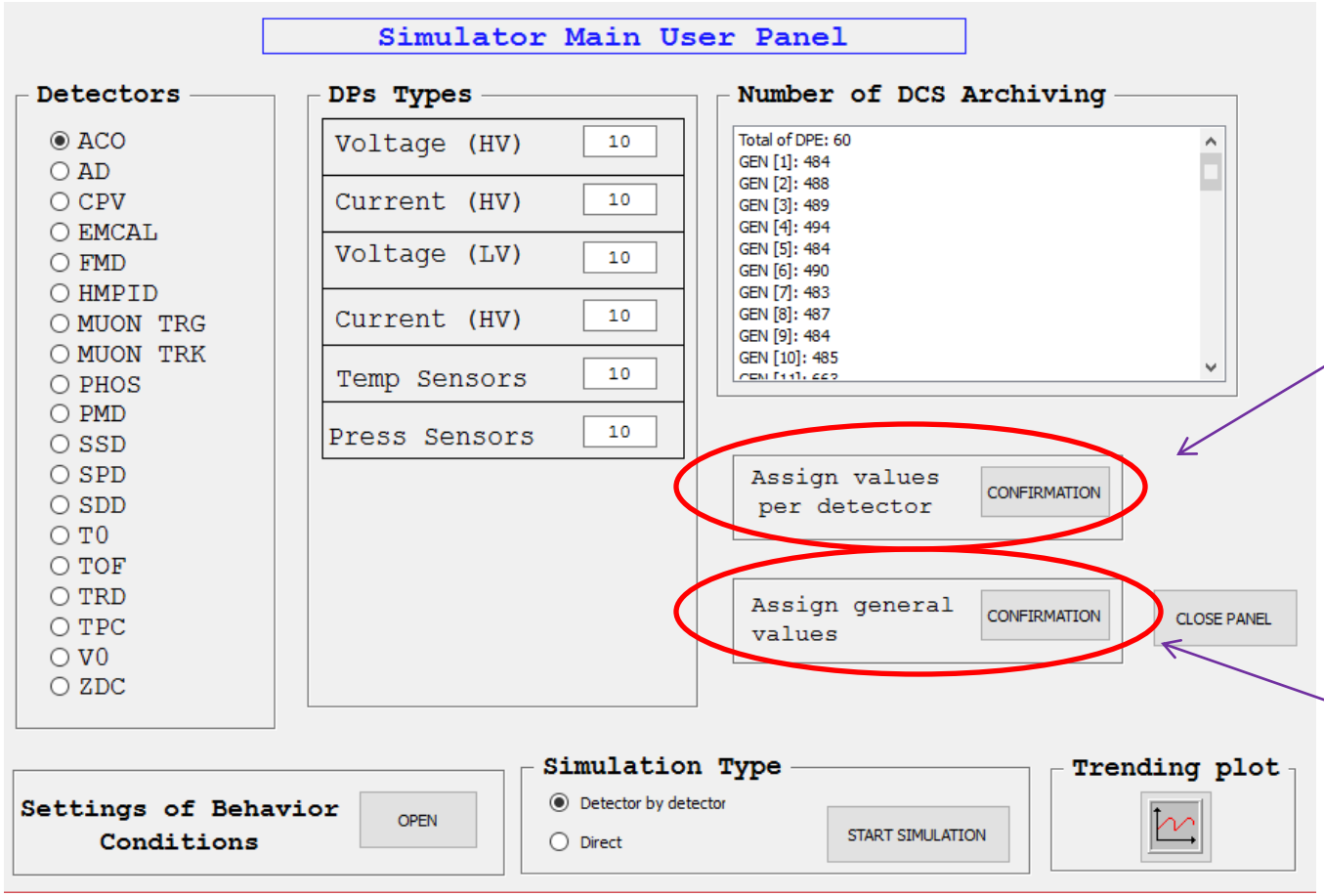
Entering the DPEs Number by type

Defining the number of DP's by detector and general form

Selecting the detector



Entering the Number of DP's by type



Income button of DPEs number by detector

Income button of DPEs number of general form

Entering the Number of DP's by type

Data Point Types (DPT)

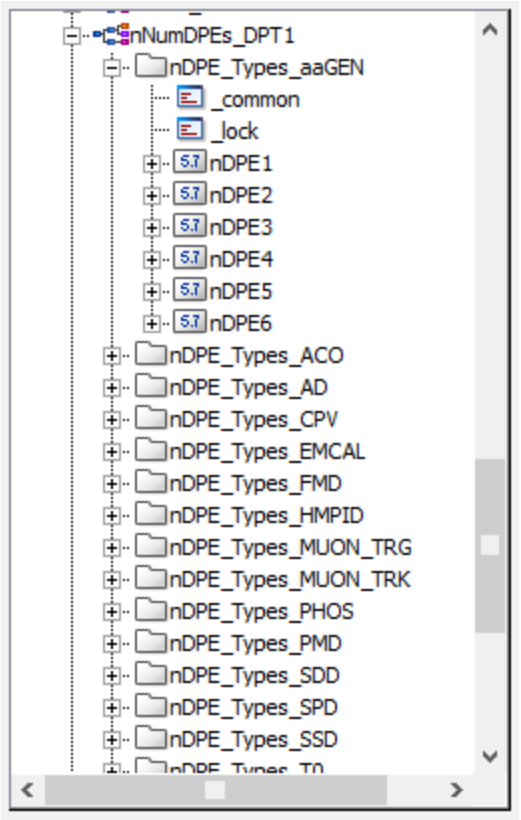
- **nNumDPEs_DPT1** (*Main panel*) => **DPT**

DP:

nDPE_Types_aaGEN
nDPE_Types_ACO
.
.
nDPE_Types_ZDC

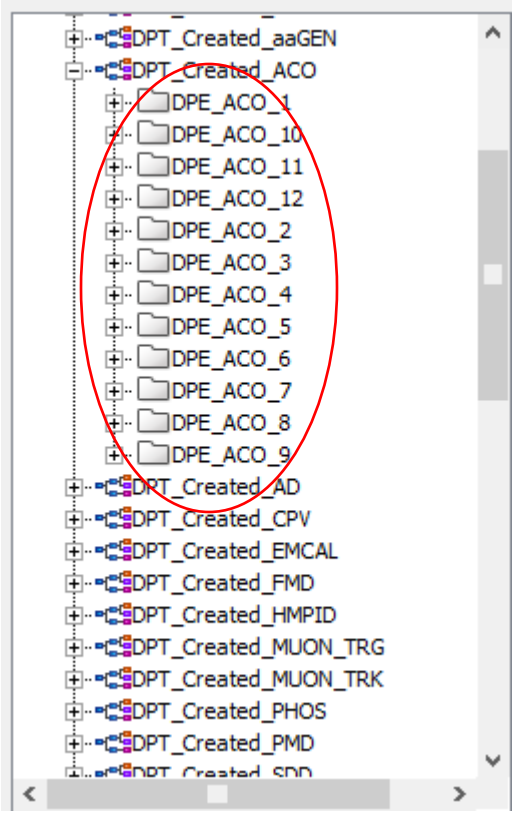
DPE:

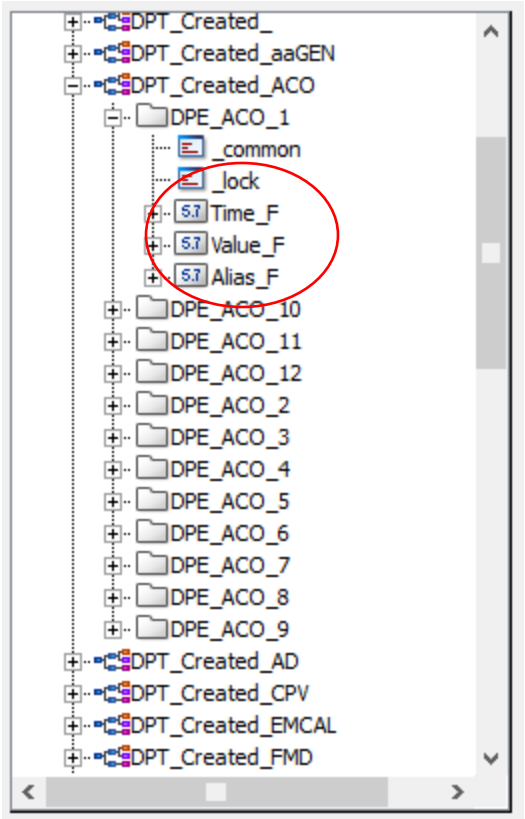
nDPE1
.
.
.
nDPE6



Entering the DPEs Number by type

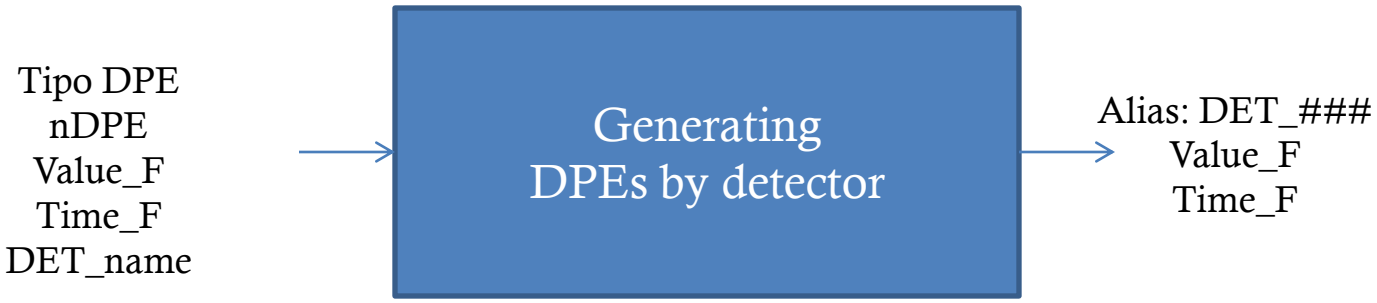
- Examples of generated DPs / DPs for simulation in WinCC OA:





Algorithm to generate DPEs by detector

- Develop a function to add the following elements to the DP's:
  - Alias
  - Random nominal value (Value_F)
  - Random time value (Time_F)



Results Panel (General)

Generated DCS Archiving

Results for a general run

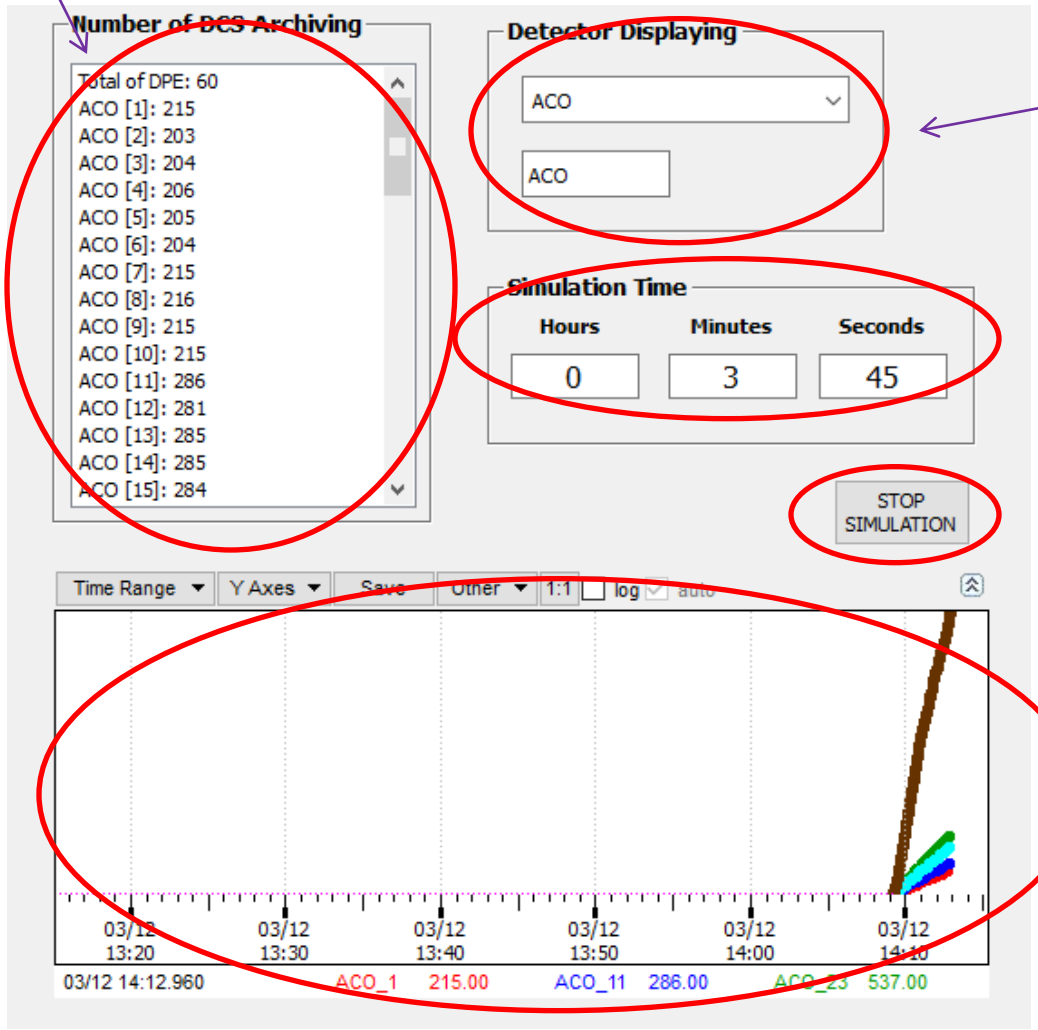
Simulation time of a run

Stop Simulation Button

Simulation Plot

Results Panel (Detectors)

Generated DCS Archiving



Results for a detector run

Simulation time

Stop Simulation Button

Simulation Plot

TODO

- Agregar dos nuevos tipos de DPs (discreto) en la simulación.

- Especificar las características de comportamiento de los tipos de DPs para cada detector en particular.