

	Simulator PIPS/Beta2 - Results C	C\SIMS\PipsBeta2\Simulati	ion0.sim	
Visualize simulation parameters	Elementary simulations	2 3	0 36000	<u>-1×1</u>
Scer	ario and/or algorithm graphic outputs	1	Response time	
1.36+3- 1.06+3-3- 1.06+3- 1	00 1500 2000 2500 300 Smuthed time(i)	-5.0E-1 Verside -0.0E+0 010E() -5.0E-1 http://www.second.com/ -5.0E-1 http://wwww.second.com/ -5.0E-1 http://wwwwwwwwwwwwwww	90 % response time simulations 3 Response time evenage 304.00 s Response time maximum 315.00 s Response time standard deviation	
Scenario outputs Artificial volumetric activity Volumetric activity of Rn22 Volumetric activity of Rn22	2 Gamma ambiant noise 0 Flow rate	Algorithm output : volumetric activity	10 % response time Number of considered elementar	
Statistical distribution estimated volumetric activity	Bias and standars	deviation	3 Response time average	
Confidence rate SE2 1.1E3 confidence rate	Number of samples 2000 Absolute bias Doc Bastura	Relative bias	1578.00 a Response time maximum 1692.00 a	

FEATURES

- Response time evaluation
- · Statistical and distribution evaluation
- Confidence rate evaluation
- · User friendly training tools
- Ergonomic, user friendly, Windows® based interface

SIMS **SIMulation Software**

The SIMS has been developed for algorithm response simulation for RAMSYS measurement channel.

This software is a powerful tool designed to provide a measurement channel/algorithm combination:

- The evolution of measurement conditions over time (activity concentrations, dose rate, flow rate, etc.)
- The measurement channel detection assembly (detection efficiencies, sensitivities to electronic noise and nuclear backgrounds, etc.)
- The evolution over time of the measurements for a channel/algorithm combination under a set of conditions

APPLICATIONS

- Barrier leak control
- Effluent release monitoring
- Radioprotection of workers
- Operational process monitoring
- Post-accident operations



radiation monitoring

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Featuring:

SETTING SIMULATION PARAMETERS

A simulation contains six functional groups of parameters. Parameters saved can be entered manually or read in a file. These groups of parameters are as follows:

- General: name of the simulation, units used throughout the simulation, origin of the measurements, etc.
- Scenario: description of the evolution of the measurement conditions over time, including:
- Simulation duration
- Evolution over time of the physical quantities which influence the measurements
- Events which influence the measurements
- Model: description of the detection assembly characteristics including:
- Detection efficiencies of the radioisotopes
- Sensitivity to the different nuclear backgrounds
- Intrinsic and electronic noise
- Algorithm: description of the algorithm parameters (accessed from the MASS software)
- Analysis: description of the statistical analyses to be performed:
- Definition of the confidence rates to be evaluated
- Definition of bias and standard deviation
- Reports: description of the automatic reports to be made during or at the end of the simulation:
- Numerical and/or graphical printing
- Data storage

SIMULATION BASED ON REAL MEASUREMENTS

It is possible to perform simulations in which the input values provided to the algorithm are not simulated values but are real measurements stored in ASCII files.

REPETITION OF IDENTICAL SIMULATIONS

The same event can be performed several times with this SIMS functionality. This is especially advantageous when evaluating response times. Indeed, if several identical simulations using different pseudo-random number sequences are performed, reliable statistical information can be obtained about the response times.

RUNNING A SEQUENCE OF SIMULATIONS

The SIMS software allows independent simulations to be run sequentially and automatically using a "batch" method.

Simulator:SI/Gam - Parameter	setting-d:\SIMS\Simulation\SIG am.sim
Display simulation results	-12
General Scenario Model Algorithm Analysis Report	
Simulation name Example of SI/Gam simulation	Load general parameters from another
Example of SI/Gam simulation, February 14, 2003	Algorithm inputs Generated by using a scenario and a model ASCII File
Signal Signal unit Dose rate Gy/h Time unit	Number of elementary simulations 2 Seed of the random number generator 2007
Counting rate unit	ASCII filmane Bronce .

Example of general tab of parameters



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