Database Console Utilities

The BM@N Unified Database containing information on simulated and experimental files is actively used for BM@N data processing. The web interface for the Database can be found here.

To get a list of simulation files met your conditions, a console application was developed: *show_simulation_files*. In addition, a console utility *show_experiment_files* was implemented to list raw data files satisfying conditions given by users.

The utility ***show_simulation_files*** is a part of the BmnRoot framework. It displays a list of simulation files according to the following optional parameters separated by a comma:

- *gen=[generator_name]* – output list includes simulation files for the given event generator.
- *energy=[N]* – output list includes only files with the collision energy being equal *N*.
  energy=[L-H] – output list includes only files with the collision energy being greater or equal *L* and lower or equal *H*.
  energy=[L-] – output list includes only files with the collision energy being greater or equal *L*.
  energy=[-H] – output list includes only files with the collision energy being lower or equal *H*.
- *beam=[beam_particle]* – output list includes only files with the given beam particle.
- *target=[target_particle]* – output list includes only files with the given target.
- *path=[part_of_path]* – output list includes only files with the given string in the path.
- *desc=[text]* – output list includes only files with the text in the description.

The following commands:
show_simulation_files /?, *show_simulation_files -h* or *show_simulation_files –help* show a brief help information for the utility.

Examples:

- show_simulation_files gen=QGSM,energy=9,beam=Au,target=Au
- show_simulation_files gen=urqmd,energy=5-9,desc=50K

The utility ***show_experiment_files*** is also a part of the BmnRoot framework. The utility displays a list of experimental raw data files according to the following optional parameters separated by a comma:

- *period=[N]* – output list includes only raw files for the period number *N*, where period (run period or “big” run) means a set of “small” runs of the experiment during one Nuclotron session.
  period=[F-L] – output list includes raw files for period numbers from *F* to *L*.
  period=[F-] – output list includes raw data files for period numbers being greater or equal *F*.

period=[-L] – output list includes raw data files for period numbers being lower or equal *L*.

- *run=[N]* – output list includes one raw data file (if exists) for the "small" run number *N*, where "small" run is a part of a "big" one and corresponds to the raw file.
  run=[F-L] – output list includes raw data files for run numbers from *F* to *L*.
  run=[F-] – output list includes raw files for run numbers being greater or equal *F*.
  run=[-L] – output list includes raw files for run numbers being lower or equal *L*.
- *energy=[N]* – output list includes only raw data files with the collision energy being equal *N*.
  energy=[L-H] – output list includes raw files with collision energies being greater or equal *L* and lower or equal *H*.
  energy=[L-] – output list includes raw files with collision energies being greater or equal *L*.
  energy=[-H] – output list includes raw files with collision energies being lower or equal *H*.
- *beam=[beam_particle]* – output list includes raw files with the given beam particle.
- *target=[target_particle]* – output list includes raw data files with the given target.
- *events=[N]* – output list includes only raw files with event count being equal *N*.
  events=[L-H] – output list includes raw data files with event count being greater or equal *L* and lower or equal *H*.
  events=[L-] – output list includes raw files with event count being greater or equal *L*.
  events=[-H] – output list includes raw files with event count being lower or equal *H*.
- *time=[N]* – output list includes only a raw data file including an event for this date-time N, where datetime format is specified as 'yyyy-mm-dd 24hh:mm:ss'.
  time=[F-L] – output list includes raw data files including events for this datetime interval (from *F* to *L*).
  time=[F-] – output list includes raw files including events started after *F* datetime.
  time=[-L] – output list includes raw files including events started before *L* datetime.
- *field=[N]* – output list includes raw data files with the field voltage (Hall Sensor) being equal *N*.
  field=[L-H] – output list includes raw files with field voltages being greater or equal *L* and lower or equal *H*.
  field=[L-] – output list includes raw files with field voltages being greater or equal *L*.
  field=[-H] – output list includes raw files with field voltage being lower or equal *H*.
- *size=[N]* – output list includes raw data files, which have the file size being equal *N*.
  size=[L-H] – output list includes raw data files, which have file sizes being greater or equal *L* and lower or equal *H*.
  size=[L-] – output list includes raw data files, which have file sizes being greater or equal *L*.
  size=[-H] – output list includes raw data files, which have file sizes being lower or equal *H*.

- *path=[part_of_path]* – output list includes raw files with the given string in the path.

The following commands:
show_experiment_files /?, *show_experiment_files -h* or *show_experiment_files –help* show a brief help information for the utility.

Examples:

- show_experiment_files period=5,energy=3-,beam=d,target=C
- show_experiment_files period=4-5,field=-800