Alphabetic list of commands

Contains only the most important commands!

Configuration commands

All EPOS configuration commands have the syntax

command parameters

or in some cases

command(parameters)

In the following we provide an **alphabetic list**.

`application` *value*

allows to define a type of reaction to be simulated. *value* is any of the following: **kinky** (for electron positron annihilation), **ee** (for decay of kinky string) or **hadron** (for hadronic interaction).

`core` *value*

allows to activate the core-corona procedure. *value* is one of the following: **full**, **off** or **PFE** which means Parameterized Fluid Expansion and is used to mimic hydro.

`echo` *value*

allows to display the following lines from the optns file to the standard output. The ***value*** is either **on** or **off**.

`eos` *value*

allows to activate equation of state. The ***value*** is any of the following: **x3ff**, **best** or **off**.

`fillTree4(`*value*`)`

allows to store the events in the ROOT format ,the corresponding file being **z**-*option_file_name*.**root** in the directory ***$CHK***. The argument *value* defines the centrality and can take value **C1** (the impact parameter is used as centrality) or **C2** (the number of pomerons for proton-proton collisions is used as centrality). But one also needs in addition to run epos with the **-root** option as: `$EPO/script/epos -root` *option_file_name.optns*

`ftime` *value*

string formation time non-zero. *value* is **on** or **off**.

`hacas` *value*

allows the hadronic re-scatterings simulated with UrQMD. *value* is **full** or **off**.

`hydro` *value*

activates the hydrodynamic evolution of the core. *value* is **hlle** or **off**.

`nodecays` *list_of_values* `end`

defines which resonances are prevented from decaying (per default, all decay). *list_of_values* is a list of EPOS particle id, separated by a space (see **src/KWt/idt.dt** for the EPOS particle identifiers definition).

`print *` *value*

writes the particle list in the file z-*name*.**check** in the directory ***$CHK***. The integer *value* defines a verbose level.

```
set variable value
```

allows to initialize certain variables, where ***value*** is a number, and ***variable*** is any of the following:

- **centrality** centrality class definition. The ***value*** can take value 0 (min bias) or 1 (central collision) to 20 (peripheral collisions)
- **ecms** center of mass energy collision (GeV)
- **engy**
- **ihepmc** if ihepmc=1 the events will be stored in a HepMC output file. To avoid the HepMC file to be removed at the end of the simulation, please run the script EPOS with the option **-hepmc**:
  $EPO/script/epos -hepmc ***name*.optns**
  The HepMC file will be created in the directory **$CHK**.
- **iranphi** if iranphi=1 event will be rotated, such that the impact parameter angle and the event plane angle (based on string segments) coincide. The particles are rotated back at the end.
- **irescl** irescl = 0 for ee to avoid calling a procedure not needed
- **istmax** max status considered for storage
- **laproj** projectile atomic number Z
- **latarg** target atomic number Z
- **maproj** projectile mass number A
- **matarg** target mass number A
- **modsho** output message after modsho simulated events
- **ndecay** block the decay of the particle. This option is now deprecated ; please use instead the command **nodecays**
- **nevent** number of events
- **nfreeze** number of freeze out events per full hydro event
- **nfull** number of simulation achieved
- **ninicon** number of initial conditions used for hydro evolution

Analysis commands

```
beginanalysis
```

starts an analysis definition.

```
binning value
```

value can be set to ***log*** for logarithm scale or ***lin*** for linear scale.

```
endanalysis
```

closes an analysis definition.

```
histogram xvariable yvariable normalisation xmin xmax nb_of_bins
```

we first define the ***xvariable*** and ***yvariable*** as variable values. The possible variable values could be, for example, ***pt*** (transverse momentum), ***numptl*** (number or particules), ***rap*** (rapidity), ***mulevt*** (multiplicity) or ***numevt*** (number of events). Then we define a normalisation code, the ***xmin*** and ***xmax*** values defining the range for x-values and the number of bins.

```
histoweight
```

prints the histoweight value.

`frame value`

value can be set to ***total*** or ***thrust*** which is a particular frame used in e+e-.

`idcode value`

define the particules of interest. Please refer to ***src/KWt/idt.dt*** to get EPOS identifier values. ***(9970*** means charged particules.)

`noweak`

means that we ignore all the particles coming from weak decays.

`set variable value`

allows to initialize certain variables, where ***value*** is a number, and ***variable*** is any of the following:

- **hisfac** : normalisation factor.

`trigger variable min max`

is used to select data with ***variable*** values between a lower bound (***min***) and an upper bound (***max***).

`write value`

value is a character string between quotes or double quotes to be written it in the file **${HTO}z-*name*.histo**.

`writearray value`

value is the number of columns to be displayed.