

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 **hll** 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 of particles), *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 particles of interest. Please refer to *src/KWt/ldt.dt* to get EPOS identifier values. (*9970* means charged particles.)

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.