Lead-lead scattering

We describe the configuration file found in **examples/**

- **expl6.optns** - PbPb collision with hydro and hadronic cascade

The content of the file is as follows:

```
application hadron !hadron-hadron, hadron-nucleus, or nucleus-nucleus collision
set laproj 82      !projectile atomic number
set maproj 207     !projectile mass number
set latarg 82      !target atomic number
set matarg 207     !target mass number
set ecms 2760      !sqrt(s)_pp
set istmax 25
set iranphi 1
ftime on
!suppressed decays:
nodecays 110 20 2130 -2130 2230 -2230 1130 -1130 1330 -1330 2330 -2330 3331 -3331 end
set ninicon 1            !number of initial conditions used for hydro evolution
core full                !core/corona activated
hydro hlle               !hydro activated
eos x3ff                 !eos activated
hacas full               !hadronic cascade activated
set nfull 2              !number of events
set nfreeze 1            !number of freeze out events per hydro event
set modsho 100           !certain printout every modsho events
set centrality 0         ! 0=min bias
fillTree4(C2)
```

The command **application hadron** specifies which kind reaction we simulate (**hadron** stands for all kinds of hadron-hadron scattering, but also hadron-nucleus or nucleus-nucleus),

Then we specify projectile and target, providing the atomic and mass number, and the energy given as center of mass energy (in GeV), using the **set** command.

Some more "technical settings" are needed: **set istmax 25** defines the maximal status value considered for storage, **set iranphi 1** is needed for internal use. In case of iranphi=1 the event will be rotated such that the impact parameter angle and the (n=2) event plane angle (based on string segments) coincide. Particles are rotated back at the end. Finally **ftime on** means that a non-zero string formation time is used (it should only be turned off for testing purposes).

The command **nodecays** allows us to block the decay of the particles π^0, K_s, Λ, $\bar{\Lambda}$, Σ^-,$\overline{\Sigma^-}$ Σ^+,$\overline{\Sigma^+}$, Ξ^0, $\overline{\Xi^0}$, Ξ^-, $\overline{\Xi^-}$, Ω^-, $\overline{\Omega^-}$ (see **src/KWt/idt.dt** for the id codes).

Then we activate all the hydro components (**core full**, **hydro hlle**, **eos x3ff**) and the hadronic re-scatterings simulated with UrQMD (**hacas full**).

To increase statistics, one might increase nfreeze.

The command **fillTree4(C2)** writes results into a ROOT file, where **C2** means that the number of Pomerons is used as centrality variable. In case of nucleus-nucleus collisions, we usually use **C1** for impact parameter as centrality variable.