Documentation on the package

- This page is meant to collect relevant information to run the AliFemto package.

Requirements

- To run AliFemto you need the following:
  1. AliRoot installation
  2. If using data from alien you will need a grid certificate.

Running in your local machine:

1. Create a folder where you will have your AliFemto data stored *i.e.* myAliFemto.
   1. Copy from `$ALICE_ROOT/PWG2/FEMTOSCOPY/macros/` the following files to `myAliFemto` directory:
      1. `AddTaskFemto.C`
      2. `ConfigFemtoAnalysis.C`
      3. `runLocal.C`.
   2. You also need this macro: `CreateESDChain.C`

2. The `ConfigFemtoAnalysis.C` macro allows you to setup the analysis and the cuts.
3. The `AddTaskFemto.C` macro creates an `AliAnalysisTask` object. This one does not need to be modified at a basic level, but here you can change the name of output files.
4. The `runLocal.C` macro starts the analysis.
5. You need to have some .par files in `myAliFemto` directory:
   1. Go to `$ALICE_ROOT` and run the following commands to create the par files:
      1. `make STEERBase.par`
      2. `make ESD.par`
      3. `make AOD.par`
      4. `make ANALYSIS.par`
      5. `make ANALYSISalice.par`
      6. `make PWG2AOD.par`
      7. `make PWG2femtoscopy.par`
      8. `make PWG2femtoscopyUser.par`
   2. Copy these .par files to `myAliFemto` directory.

6. Now you are ready to run a local analysis. Run aliroot:
   ```bash
   aliroot
   'runLocal.C("ESD_LHC08b1.txt",0)'
   ```

Running on CAF:

1. Log on to your `lxplus` account and enable root and alien by:
   1. `alien-token-init`
   2. `source /afs/cern.ch/alice/caf/caf-1xplus.sh -alien v4-17-Release`
2. Create a folder for your analysis *i.e.* myAliFemto.
   1. Copy from `$ALICE_ROOT/PWG2/FEMTOSCOPY/macros/` the following files to `myAliFemto` directory:
      1. `AddTaskFemto.C`
      2. `ConfigFemtoAnalysis.C`
      3. `runLocal.C`.
   2. You also need this macro: `CreateESDChain.C`

3. Copy the same .par files as in the local analysis.
4. If you want to see the available data sets on CAF, use this macro: `ShowDataSetsOnCaF.C`
5. Choose a data set to run the analysis on (*i.e.* `/COMMON/COMMON/LHC08c11_10TeV_0.5T`).
5. Now you should be ready to run AliFemto: `aliroot runProof.C("/COMMON/COMMON/LHC08c11_10TeV_0.5T.1000000")`
   • The second argument is the number of events to analyze.

**Output from**

1. The default output is a **Femto.ESD.root** file.
2. To view the contents you can use this macro `ViewFemtoContent.C`.
3. If you want to look at the Q invariant correlation function, you could use a macro like this: `HistoQinv.C`.

From here you can write your own analysis macros.

-- JorgeMercado - 25-Nov-2009

- **ESD_LHC08b1.txt**: sample ESD list to run a local analysis.