

SUMMARY

Angular analysis and differential branching fraction of the decay: $B^0 \rightarrow K^{*0} \mu^+ \mu^-$

REFERENCES

Mauro's $B^0 \rightarrow K^{*0} \mu \mu$ Analysis Twiki

AN2014_129

Optimizing angular observables, eq. 43, 44 [↗](#)

WORKING DIRECTORY

MACOSX 10.10.1

/Users/derek/PhysicsAnalysis/usercode/B0Analysis/B0KstMuMu

INIT VOMS

```
voms-proxy-init -voms cms
```

DATA AND MC FILES

```
lcg-ls -v -b -D srmv2 srm://storm.mib.infn.it:8444/managerv2?SFN=/cms/store/user/dinardo/
```

```
lcg-cp -v -b -D srmv2 srm://storm.mib.infn.it:8444/managerv2?SFN=/cms/store/user/dinardo/Data2012
```

ROOT INSTALLATION

INFN Tutorial [↗](#)

```
$ cd ~/
$ uname -a
Darwin pb-d-128-141-137-91.cern.ch 14.0.0 Darwin Kernel Version 14.0.0: Fri Sep 19 00:26:44 PDT 2015; root:xnu-2002.202.2/~/RELEASE_ARM_T8020

Download sources
$ ll root_v5.34.30.source.tar.gz
146768 -rw-r--r--@ 1 derek  staff  75144683 Jun  2 11:26 root_v5.34.30.source.tar.gz

Unzip and untar
$ tar xvfz root_v5.34.30.source.tar.gz

Configure, make and install
$ cd root
$ ./configure macosx64 --enable-cocoa --enable-minuit2 --enable-roofit --enable-tmva --enable-fft
$ make -j 12
$ sudo make install

Setup environment
$ source /usr/local/root/bin/thisroot.sh (in ~/.profile)

Check version
$ root -v
ROOT 5.34/30 (v5-34-30@v5-34-30, Apr 23 2015, 18:31:46 on macosx64)
```

COMPILE EXTRACTYIELD (FIT PROGRAM)

```
$ source ~/.profile
$ cd /Users/derek/PhysicsAnalysis/usercode/B0Analysis/B0KstMuMu/plugins
$ make ExtractYield
```

RUN THE FIT

```
$ source ~/.profile
$ cd /Users/derek/PhysicsAnalysis/usercode/B0Analysis/B0KstMuMu
$ source setup.sh
```

```
@@@ Analysis environment variable: /Users/derek/PhysicsAnalysis/usercode/B0Analysis/B0KstMuMu @@@
@@@ Directory with data: /nfs/data37/cms/dinando/Data2012B0KstMuMuResults @@@
@@@ Data year: 2012 @@@
```

```
$ ./plugins/ExtractYield 6 singleCand_B0ToKstMuMu_MC_NTuple.root yesEffCorr 0
```

EFFICIENCY FILES

Efficiency files from efficiency.zip go in /Users/derek/PhysicsAnalysis/usercode/B0Analysis/B0KstMuMu

NOTES

```
cp results/ParameterFile_DataStartVals.txt python/Para .
```

```
copy ParameterFileOut.txt results/ParameterFile_Data.txt
```

Make reduced root file

```
root [0] .L plugins/Macros.C++
```

```
void ReduceTree(string fileNameIn, string fileNameOut, bool isSingleNotMultyCand)
```

-- DerekAxelStrom - 2015-05-27

This topic: Sandbox > B0ToKstMuMuTaskForce

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