# Introdução à análise de dados em FAE e tecnologias associadas

# Divisão dos grupos

| Processos de estudo: | Amostras | Link | Dados/MC |
|---|---|---|---|
| ZZ -> 2mu2e | | | |
| **Grupo 1** | Simulated dataset ZZ_TuneCP5_13TeV-pythia8 in NANOAODSIM format for 2016 collision data | https://opendata.cern.ch/record/75593 | MC |
| | Simulated dataset ZZTo4L_TuneCP5_13TeV_powheg_pythia8 in NANOAODSIM format for 2016 collision data | https://opendata.cern.ch/record/75589 | MC |
| | DoubleMuon primary dataset in NANOAOD format from RunG of 2016 | https://opendata.cern.ch/record/30522 | Dados |
| | MuonEG primary dataset in NANOAOD format from RunG of 2016 | https://opendata.cern.ch/record/30528 | Dados |
| ZZ->4mu | | | |
| **Grupo 2** | Simulated dataset ZZTo4L_TuneCP5_13TeV_powheg_pythia8 in NANOAODSIM format for 2016 collision data | https://opendata.cern.ch/record/75589 | MC |
| | DoubleMuon primary dataset in NANOAOD format from RunG of 2016 | https://opendata.cern.ch/record/30522 | Dados |
| ZZ->4e | | | |
| **Grupo 3** | Simulated dataset ZZTo4L_TuneCP5_13TeV_powheg_pythia8 in NANOAODSIM format for 2016 collision data | https://opendata.cern.ch/record/75589 | MC |
| | DoubleEG primary dataset in NANOAOD format from RunG of 2016 | https://opendata.cern.ch/record/30521 | Dados |
| ZZ->2q2l | | | |
| **Grupo 4** | Simulated dataset ZZTo2Q2L_mllmin4p0_TuneCP5_13TeV-amcatnloFXFX-pythia8 in NANOAODSIM format for 2016 co | https://opendata.cern.ch/record/75573 | MC |
| | Simulated dataset ZZ_TuneCP5_13TeV-pythia8 in NANOAODSIM format for 2016 collision data | https://opendata.cern.ch/record/75593 | MC |
| | DoubleMuon primary dataset in NANOAOD format from RunG of 2016 | https://opendata.cern.ch/record/30522 | Dados |
| Z->mumu | | | |
| **Grupo 5** | DYJetsToLL_M-50_TuneCP5_13TeV-amcatnloFXFX-pythia8 | https://opendata.cern.ch/record/35669 | MC |
| | DoubleMuon primary dataset in NANOAOD format from RunG of 2016 | https://opendata.cern.ch/record/30522 | Dados |
| Z->ee | | | |
| **Grupo 6** | DYJetsToLL_M-50_TuneCP5_13TeV-amcatnloFXFX-pythia8 | https://opendata.cern.ch/record/35669 | MC |
| | DoubleEG primary dataset in NANOAOD format from RunG of 2016 | https://opendata.cern.ch/record/30521 | Dados |

Link para a planilha

# Onde encontrar os dados

- Pelo jupyterhub:
  - jupyterhub.hepgrid.uerj.br
- Caminho:
  - /opendata/eos/opendata/cms/

```
mthiel@2fe031d7566b:/opendata/eos/opendata/cms$ ls
Run2016G  mc
mthiel@2fe031d7566b:/opendata/eos/opendata/cms$ ls Run2016G/
DoubleEG  DoubleMuon  MuonEG
mthiel@2fe031d7566b:/opendata/eos/opendata/cms$ ls mc/RunIISummer20UL16NanoAODv9/
DYJetsToLL_M-50_TuneCP5_13TeV-amcatnloFXFX-pythia8  ZZTo2Q2L_mllmin4p0_TuneCP5_13TeV-amcatnloFXFX-pythia8  ZZTo4L_TuneCP5_13TeV_powheg_pythia8  ZZ_TuneCP5_13TeV-pythia8
mthiel@2fe031d7566b:/opendata/eos/opendata/cms$
```

- Iremos usar o formato de dados NANOAOD do CMS