PAT status and issues

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with info from Alberto, Andrea and Kostya

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Issues

- DATA processed is still `PromptReco`
- Only a fraction of integrated lumi is available
  - PromptReco would have been good to start with last fall, but now is clearly old
  - So far, only Kostya has produces these PAT, which are used by SeeSaw (Andrea/Ezio) and $A \to Zh$ (Alberto)
  - More manpower needed?
- Some of the files in the list are note readable.
- Some list have duplicated file names
  - job crashed? file corrupted?
  - do we take into account this failures when computing the integrated lumi of a sample?
  - what about MC? We need the exact number of generated events to normalize.
  - The sanitization of the list is done correctly?

Issues (II)

- In DoubleEle sample, the events counts does not match with that of UTC (trigger).
  In RunA there are 1758 more events and in RunB 1302509 **less** events
  - Do we have full control of input and output events?
- The integrated lumi reported in twiki page seems very strange, and does not match the one I found processing the same data period (RunA,B,C) for `MuHad`, `SingleMu` and `MuOnia` primary dataset.
  - Is the lumi badly reported or do we miss some of the dataset?
- The Z peak of $Z \to ee$ is not reproduced by MC. Shape and position differs significantly. See Alberto plots.
  - Any idea about what might be wrong here?
  - possibly a wrong calibration of ECAL? Prompt-reco vs ReReco? GlobalTag?
  - $Z \to \mu\mu$ is fine (but for normalization, likely related with integrated lumi/number of events issues.

Issues [not critical] (III)

- Some info is missing in the twiki page to correctly use data
  - integrated lumi for MC (need info from PREP)
  - can definitively be done by anyone, not only Kostya!
- Reading electron is not straightforward. Need a lot of extra package and ad-hoc manipulation
  - I'm concerned about stability and reliability of this complex recipes
  - What if we have to migrate to a newer release?
- Particle Flow isolation should be produced during PAT processign to follow EGam pog recipe
- In general a large number of pattuples are produced for each dataset, each containing small number of events
  - PaT reading become less effective

PAT Status Data

From Kostya twiki page
https://twiki.cern.ch/twiki/bin/view/Sandbox/KostyaProductions

- **Data 2012A** L=696.063/pb

DoubleMu `/DoubleMu/Run2012A-PromptReco-v1` NOT ava in DAS!
DoubleEle `/DoubleElectron/Run2012A-PromptReco-v1` NOT ava in DAS!
MuEG `/MuEG/Run2012A-PromptReco-v1` NOT ava in DAS!

- On SingleMu I have L=913.78/pb (30% more!)
- DoubleEle had 1758 more events than what reported by UTC (trigger)
- still `PromptReco`
- How many input events? How many output?

PAT Status Data (II)

- **Data 2012B** L=4430/pb

DoubleMu `/DoubleMu/Run2012B-PromptReco-v1` NOT ava in DAS!
DoubleEle `/DoubleElectron/Run2012B-PromptReco-v1` NOT ava in DAS!
MuEG `/MuEG/Run2012B-PromptReco-v1` (95% done) NOT ava in DAS!

- On SingleMu I have L=4511/pb (2% more)
- DoubleEle had 1302509 **less** events than what reported by UTC (trigger)
- still `PromptReco`
- How many input events? How many output?

PAT Status Data (III)

- **Data 2012C** L=485.861/pb

DoubleMu `/DoubleMu/Run2012C-PromptReco-v1` 2 141 512 ev in DAS

DoubleEle `/DoubleElectron/Run2012C-PromptReco-v1` (99% done) 2 722 477 ev in DAS

MuEG `/MuEG/Run2012C-PromptReco-v1` 1 396 947 ev in DAS

- **On SingleMu I have L=7136.33/pb with ~ 90 Mevents!**
- still `PromptReco`: btw there is a `PromptReco-v2`
- How many input events? How many output?

- **Data 2012D** L=7406/pb not available yet
- any particular reason for that?

PAT Status MC ()

- To compute integrated lumi, we need no. events generated (PREP) and events processed (100%, less?)
- **DYJetsToLL**
  - `/DYJetsToLL_M-10To50filter_8TeV-madgraph/Summer12-PU_S7_START52_V9-v1/` 7 132 223 events from DAS
  - `/DYJetsToLL_M-10To50filter_8TeV-madgraph/Summer12-PU_S7_START52_V9-v1/` 30 461 028
  - `/DYJetsToLL_M-50_TuneZ2Star_8TeV-madgraph-tarball/Summer12-PU_S7_START52_V9-v2` 24 015 586
  - `/DY2JetsToLL_M-50_TuneZ2Star_8TeV-madgraph/Summer12-PU_S7_START52_V9-v1` 2 351 436
  - `/DY4JetsToLL_M-50_TuneZ2Star_8TeV-madgraph/Summer12-PU_S7_START52_V9-v1` 6 400 629
- **TTbar**
  - `/TTTo2L2Nu2B_8TeV-powheg-pythia6/Summer12-PU_S7_START52_V9-v1` 13 958 598
  - `/TTJets_TuneZ2star_8TeV-madgraph-tauola/Summer12-PU_S7_START52_V9-v1` 6 736 135
  - `/TTJets_HadronicMGDecays_8TeV-madgraph/Summer12_DR53X-PU_S10_START53_V7A-v1` 10 537 444
  - `/TT_8TeV-mcatnlo/Summer12_DR53X-PU_S10_START53_V7A-v1` 32 852 589
  - `/Tbar_tW-channel-DR_TuneZ2star_8TeV-powheg-tauola/Summer12-PU_S7_START52_V9-v1` 493 460

PAT Status MC (II)

- **EWK** with product for SeeSaw
  - /ZZJetsTo2L2Q_TuneZ2star_8TeV-madgraph-tauola/Summer12-PU_S7_START52_V9-v3 1 943 948 ev
  - /GluGluToHToZZTo2L2Q_M-125_8TeV-powheg-pythia6/Summer12-PU_S7_START52_V9-v1 299 973
  - /TTJets_FullLeptMGDecays_8TeV-madgraph/Summer12_DR53X-PU_S10_START53_V7A-v2 12 119 013
  - /WW_TuneZ2star_8TeV_pythia6_tauola/Summer12-PU_S7_START52_V9-v1 10 000 431
  - /WZ_TuneZ2star_8TeV_pythia6_tauola/Summer12-PU_S7_START52_V9-v1 9 996 622
  - /ZZ_TuneZ2star_8TeV_pythia6_tauola/Summer12-PU_S7_START52_V9-v1 9 799 908
  - /WWWJets_8TeV-madgraph/Summer12_DR53X-PU_S10_START53_V7A-v1 220 549
  - /ZbbToLL_massive_M-50_TuneZ2star_8TeV-madgraph-pythia6_tauola/ Summer12_DR53X-PU_S10_START53_V7A-v1 14 129 304
- **SeeSaw**
  - /SeesawTo3Lminus_M-140_FDS_TuneZ2_8TeV-madgraph/Summer12_DR53X-PU_S10_START53_V19-v1
  - M=140, 180, 200, 220, 260,
  - SeesawTo3Lminus and SeesawTo3Lplus