



# E/Gamma Analysis Framework

## Status Report

- What's new.
- Package Validation (using 6.0.4).
- Package for the new productions (8.x.x).
- What to be next.

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# What's news.

- Package moved to a new location, under:

**/Trigger/TrigAnalysis/TrigEgammaAnalysis**

- No dependencies – Stand alone package.
- Older versions still exist at the initial path.
- Current tagged version:

**TrigEgammaAnalysis-00-00-05**

- For every new tag, people get notice via the mailing list:

**[atlas-trig-egamma@cern.ch](mailto:atlas-trig-egamma@cern.ch)**



# Package Validation.

- Essential, so that we're sure that the upgraded version is consistent with the previous.
- **TrigNtEgamma-00-00-15** was chosen for the validation.
  - This was the latest version modified by the previous people (M. P. Casado).

## THEN :

- i. Adjust **the cuts**, so both packages apply the same cuts at all trigger levels.
  - Use the cuts listed at the `.../TrigEgammaAnalysis/docs`
- ii. Fix **the bug** for the **type** and the **origin** of the particles.
  - Fortan starts counting from 1. C starts counting from 0!
  - See **ChangeLog** on **2004-06-21** for a more precise explanation.
- iii. Use the **6.0.4 production** data-sets with 10,000 Low luminosity and 15,000 High luminosity events.



# Package Validation.

## ➤ RESULT...

Both *TrigNtEGamma-00-00-15* and *TrigEgammaAnalysis-00-00-05* give exactly the same numbers (electrons, events and efficiencies!)

(for the exact numbers see: [www.hep.ucl.ac.uk/~sstef/egammaPackage/Efficiencies\\_604\\_LowLumi\\_TrigEgammaAnalysis-00-00-005.ps](http://www.hep.ucl.ac.uk/~sstef/egammaPackage/Efficiencies_604_LowLumi_TrigEgammaAnalysis-00-00-005.ps)  
[Efficiencies\\_604\\_HighLumi\\_TrigEgammaAnalysis-00-00-005.ps](http://www.hep.ucl.ac.uk/~sstef/egammaPackage/Efficiencies_604_HighLumi_TrigEgammaAnalysis-00-00-005.ps) )

Any improvement from now on should use these numbers (and these cuts) as a **REFERENCE**.

- CONCLUSION...

**Package Validated. People can trust  
*TrigEgammaAnalysis-00-00-05* (and on)  
for their analysis using the dcl ntuples.**



# Package for the new productions.

- New productions (Releases >8.0.0) give new challenges.
- Till now:
  - i. Can we read the new ntuples ? **√ YES**
  - ii. Are the variables the same, as before? – **NO**

See for example the change at `eg_trkmatchnt` – Still effort to fix it – Get in contact with the EF people.

- iii. Do we currently get reasonable (better) efficiencies compared to 6.0.4? – **NO**

Is this due to a bug at the e/gamma package?

Is this due to a bug at the reconstruction algorithms?

- The monitoring class introduced by Antonella seems to make bug-spotting and bug-fixing quicker and more effective.
- More work on that.



# What to be next.

Until the end of August, a lot of parallel tasks must be carried out:

## A. TECHNICAL.....

- Fix the problem with the **variables** and with any other bugs.
- Check and include the **Monitoring Class** in the main package  
⇒ New tag.
- Construct the **new web-page** dedicated to the e/gamma package.  
(Till then people can consult my personal web-page).

## B. PHYSICS.....

- Optimize **the cuts**. Few of them have been modified.
- Switch between **double/single** trigger object.
- What else??