



Tagged photons Angular Resolution

L. Latronico C. Sgrò

Beam Test EVO meeting
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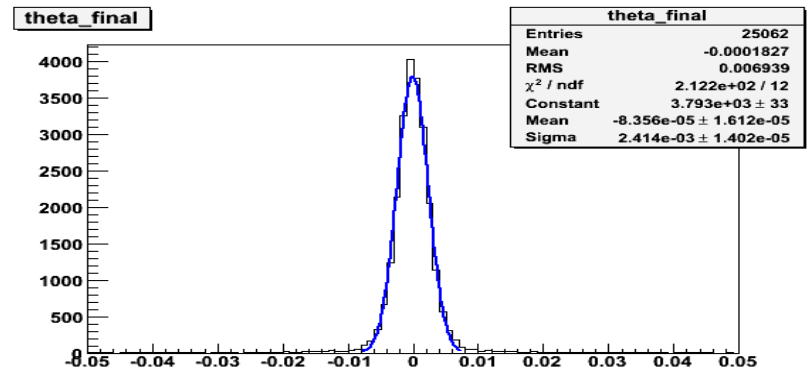
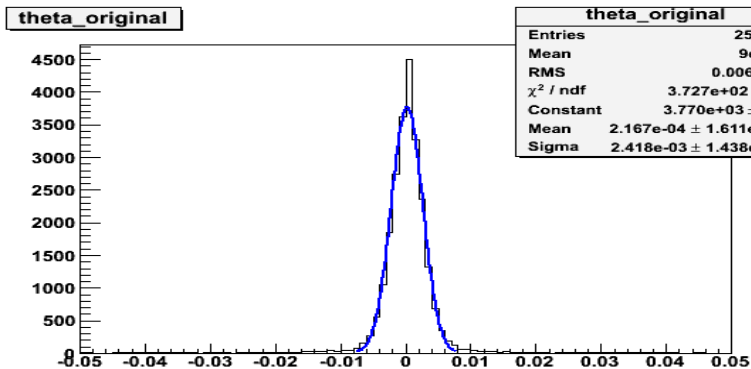
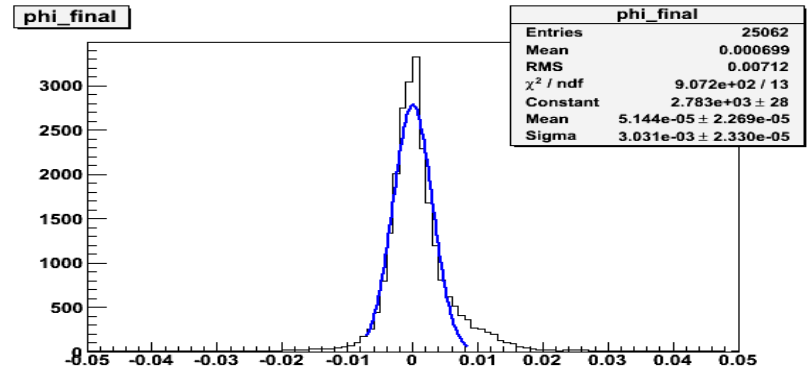
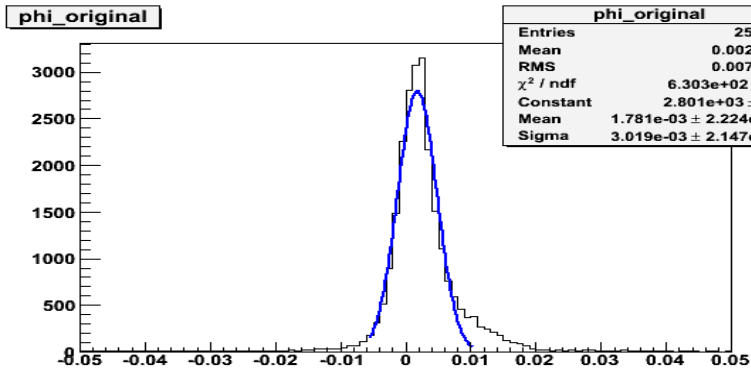


Introduction

- **We want to check MC for tagged photons and compare the Angular resolution**
- **We started re-evaluating the tagged photon data trying to**
 - ❑ **include the low energy runs**
 - ❑ **include a correct alignment of both tagger and CU.**
 - **Using the beam axis as reference**
- **We will show**
 - ❑ **the result of the alignment**
 - ❑ **the effect on the angular resolution**
 - ❑ **a comparison with Nicola & Co. analysis**
- **We still need to study/tune the MC...**



The alignment procedure



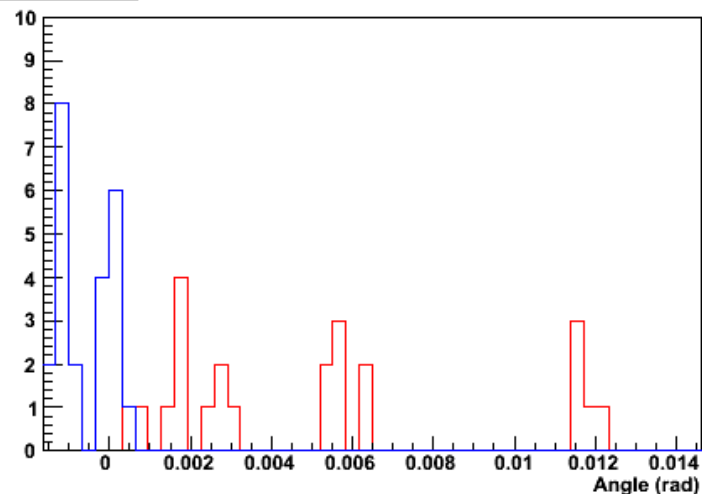
- The distributions of the particle direction, in both the bending (phi) and non bending (theta) plane, are fitted with a gaussian
- The peak value is used to rotate the coordinates system



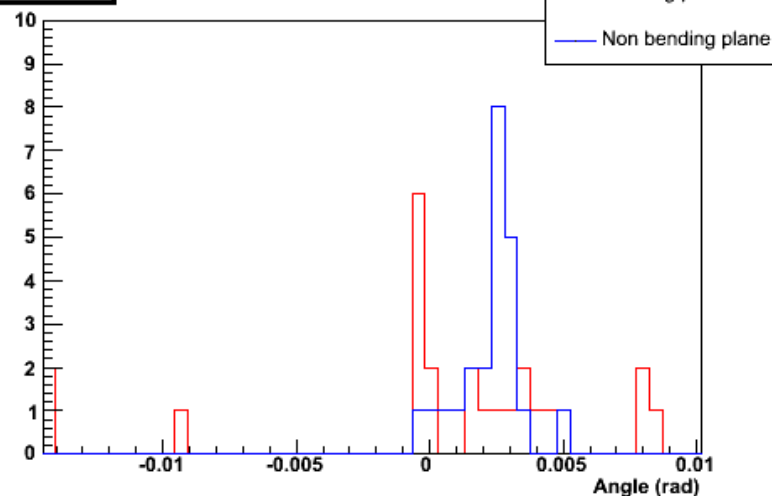
Alignment results

- We aligned 23 runs
- Notice that, for the tagger, the misalignment tend to be higher in the bending plane
- In any case the average misalignment is of the same order of angle between electron and bremsstrahlung photon ($\sim 0.1^\circ$)
- We don't expect great improvement.

Tagger alignment angles



CU alignment angles

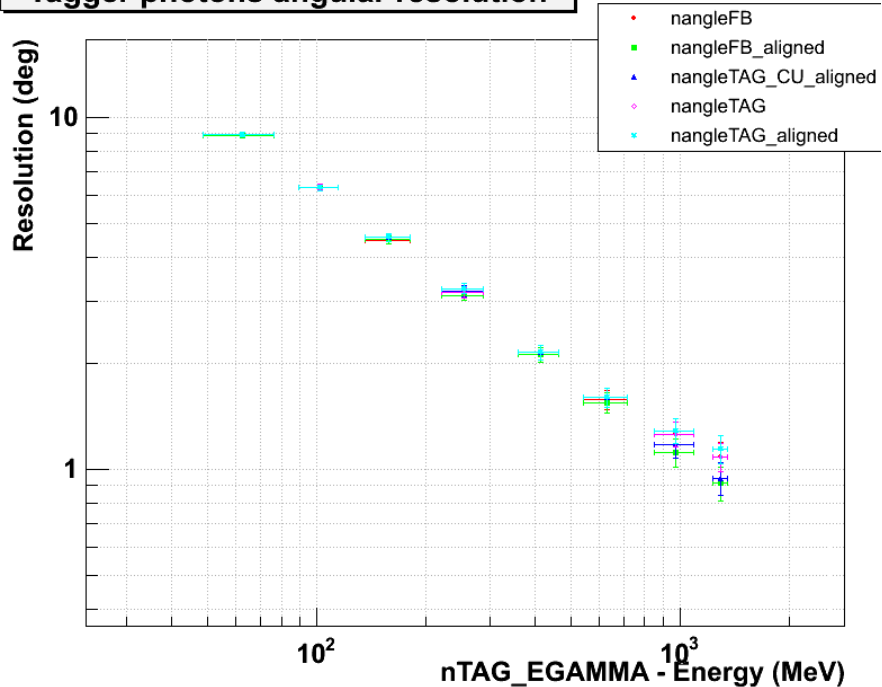




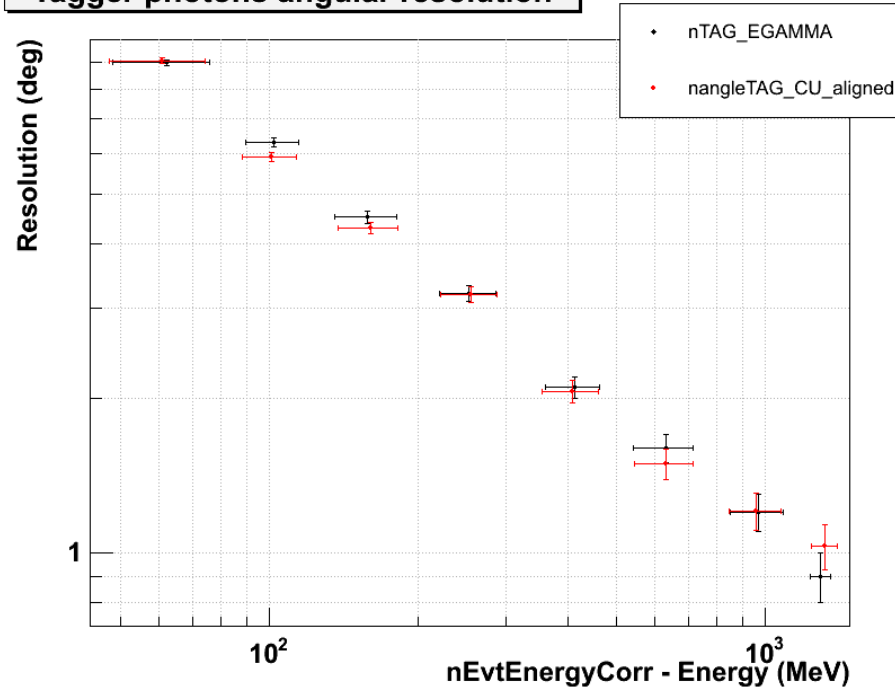
Comparison among the variables

- Simple cuts
 - ❑ no event topology separation
- All the variables seem to be equivalent
- Small differences if we use the CU energy instead of the tagger energy

Tagger photons angular resolution



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Comparison with previous result

- Comparison for event class A.2.1 and A.1.1 (following Nicola convention)
- Tagged data show a slightly worse angular resolution, but still within errors
- Need to understand differences and check the MC

