

Preliminary studies of multiphoton effects for the KLOE analyses

- Reminder on RC, MC and RMCLWG (to give the message that the topics of RC, NLO, NNLO, etc..is well known to us)
- Reminder on KLOE different selections
- Plot mtrk à la Stefan
- Flow chart where MC corrections enters at LO
- Show some distributions:
 - $\mu\mu\gamma$: comparison KKMC, Phokhara, Babayaga(?) inclusive, SA (LA?), before and after MTRK
 - $\pi\pi\gamma$: comparison. Phokhara Babayaga SA ?
- Give possible estimates of impact of these differences:
 - Plot some MC corrections we used in our analysis
 - Estimate of the effect in the background subtraction? (Lorenzo P)

Identify the MC pieces

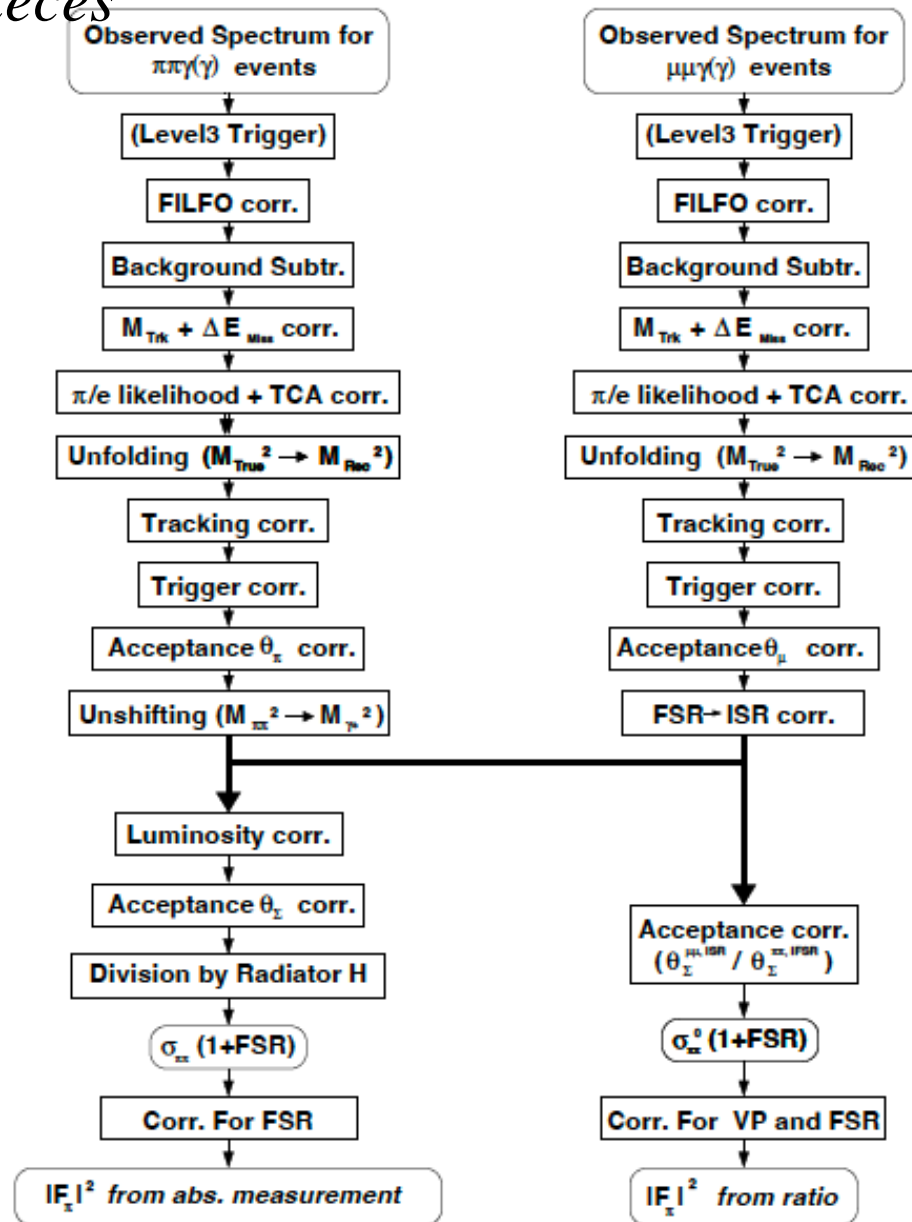
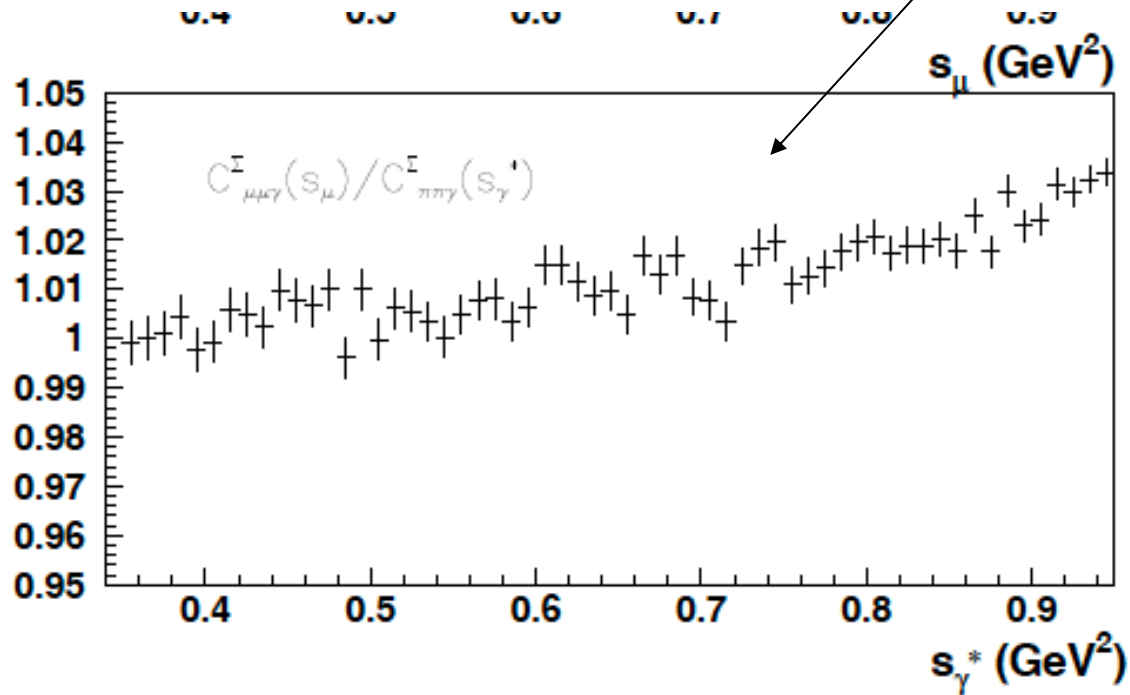


Figure 7: The description of the analysis flow for both methods.

For mmg analysis:

$$\sigma_{\pi\pi}^0(s') = \frac{4\pi\alpha^2}{3s'}(1 + 2m_\mu^2/s')\beta_\mu \frac{d\sigma_{\pi\pi\gamma}^{\theta_{\Sigma}<15^\circ}(s')}{d\sigma_{\mu\mu\gamma}^{\theta_{\Sigma}<15^\circ}(s_\mu)(1 - \eta_\mu(s_\mu))} \frac{C_{\mu\mu}^\Sigma(s_\mu)}{C_{\pi\pi}^\Sigma(s')}$$



Can we do this with Babayaga@NLO?

Some comparisons mmg (NO VP):

good agreement

INCLUSIVE ($0 < \theta_{\mu, \gamma} < 180$)

- ISR (Phokhara, KKMC, McMule(MC))
- ISR+FSR (PHOKHARA, MC vs KKMC, Babayaga(?))

~good agreement

SA selection NO MTRK:

- ISR (Phokhara, KKMC, McMule)
- ISR+FSR (PHOKHARA, MC, vs KKMC, Babayaga(?))

~bad agreement:

LA selection NO MTRK (+-2%)

- ISR (Phokhara, KKMC, McMule) (+-1%)
- ISR+FSR (PHOKHARA, MC vs KKMC, Babayaga(?)) (+-2%)

Should we show since we don't really use mmg for LA?

bad agreement:

SA selection with MTRK:

- ISR (Phokhara, KKMC, McMule) 0.5 -2%
- ISR+FSR (PHOKHARA, MC vs KKMC, Babayaga(?)) (1-3%)

Some comparisons ppg (NO VP):

INCLUSIVE ($0 < \theta_{\mu, \gamma} < 180$)

- ISR (Phokhara, McMule, Babayaga)
- ISR+FSR (PHOKHARA Babayaga(?))

SA selection NO MTRK:

- ISR (Phokhara, McMule, Babayaga)
- ISR+FSR (PHOKHARA Babayaga)

SA selection with MTRK:

- ISR (Phokhara, KKMC, McMule)
- ISR+FSR (PHOKHARA vs Babayaga(?))

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