

# X(750) search at the ILC

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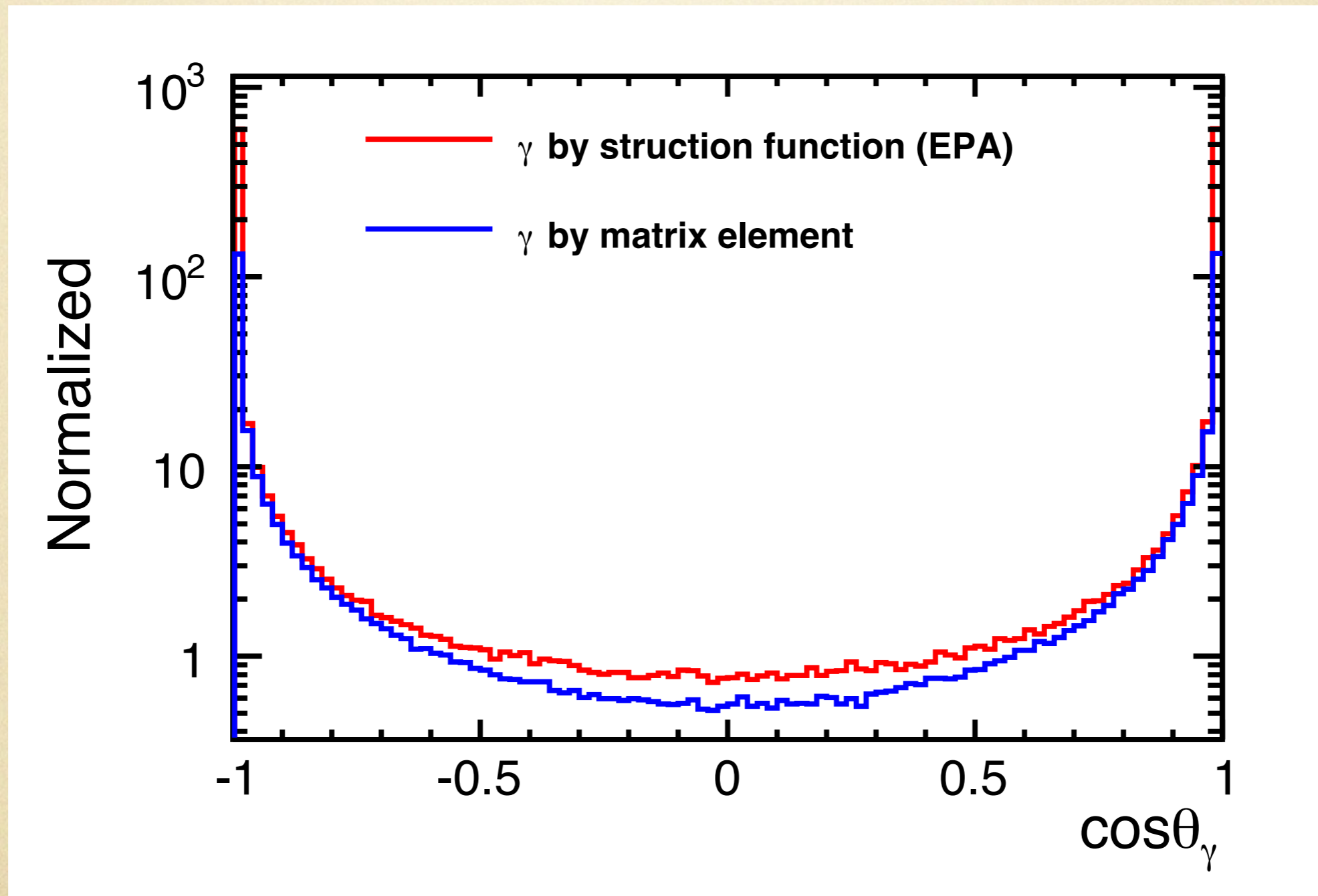
## status

- finalising analyses
  - ▶ ISR in  $e^+e^- \longrightarrow \nu\nu$  (see next slide)
  - ▶ 6f BG (turns out to be important after previous set of cuts, BG doubled; reducible by possible cuts on  $y_{3 \rightarrow 2}, y_{4 \rightarrow 3}, \# \text{ pfos, etc.}$ )
  - ▶ cut optimisation (ongoing)
- paper in preparation: draft of theory part available; experimental part available in one week

photon in  $e^+e^- \rightarrow \gamma \nu_{\mu/\tau} \nu_{\mu/\tau}$  ( $\gamma$  can only come from ISR)

compared two cases by whizard:

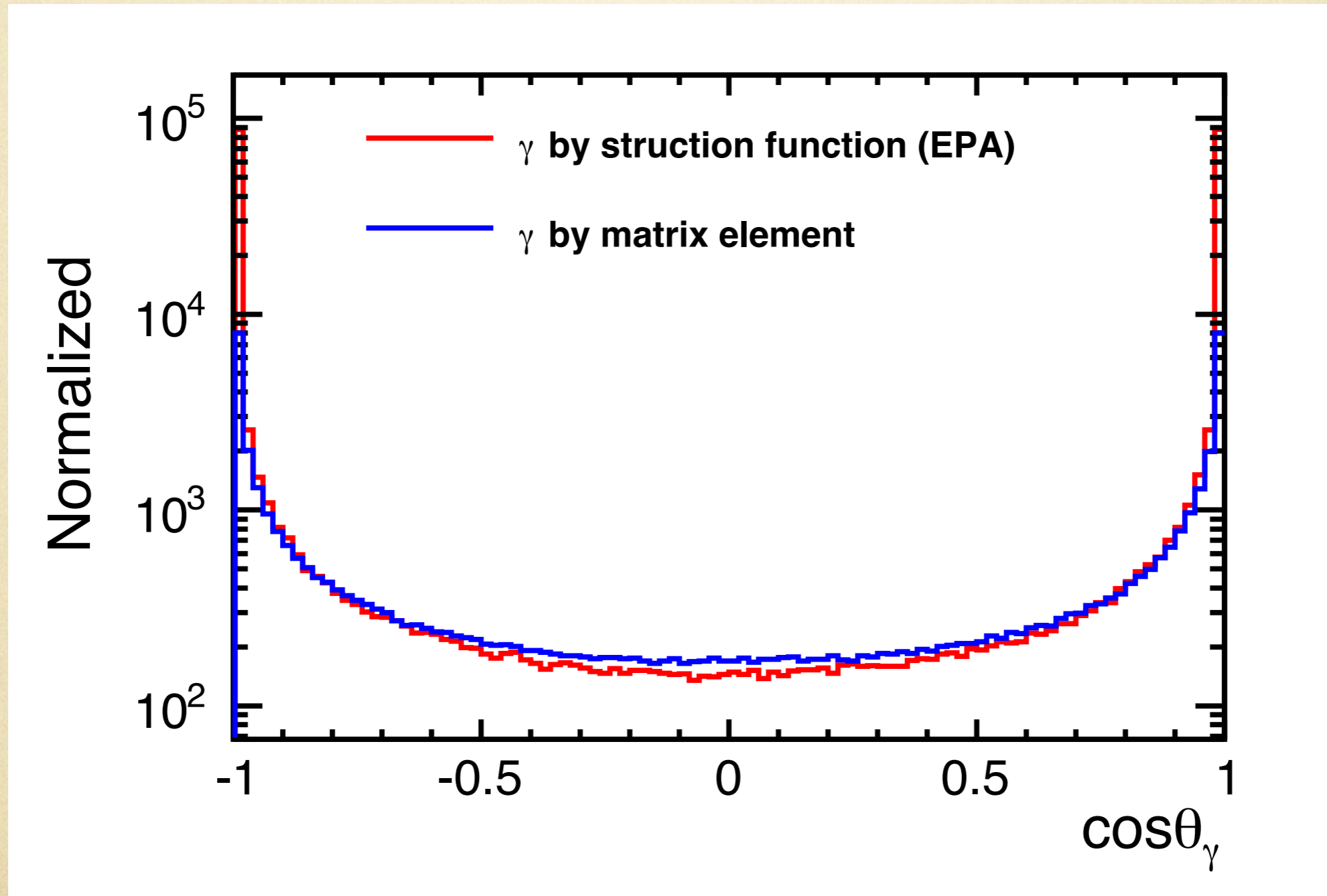
ISR on,  $e^+e^- \rightarrow \nu\nu$ ; ISR off,  $e^+e^- \rightarrow \gamma\nu\nu$



in central region:  $\sim 20-30\%$  over-estimated by structure function

photon in  $e^+e^- \rightarrow \gamma \nu_e \nu_e$

( $\gamma$  can come from ISR, or FSR from  $W$  propagator)



in central region:  $\sim 10\%$  under-estimated by structure function