

Angular resolution systematics

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P5p meeting,
no meeting, 3 May 2016

- Compare fit with only **right-tag** after all selection with RECO-level angles and with GEN-level angles.
- Same fit procedure, only the angles change (reco vs gen).
- **new wrt previous results:**
 - ▶ perform a scan of initial values (100 set for each bin) and consider as results only those from fully converged fit
 - ▶ RooFitResult: minimized FCN value: XXXX, estimated distance to minimum: YYY
covariance matrix quality: Full, accurate covariance matrix
 - Status : MINIMIZE=0 HESSE=0**
- Note: in general, several set of different initial values lead to a fully converged fit
 - ▶ The fit final values are not identical, but the spread is much smaller than
 - ★ the statistical uncertainties
 - ★ than the difference between RECO-level and GEN-level angles (this systematics)
 - ▶ ignore it

Comparing fit results on RECO angles with GEN angles all at RECO level.

q^2 bin	ΔF_L	ΔP_1	$\Delta P'_5$
$\Delta = RECO - GEN$			
0	$-3.98 \cdot 10^{-4}$	$-1.50 \cdot 10^{-3}$	$1.05 \cdot 10^{-4}$
1	$-7.83 \cdot 10^{-4}$	$-3.30 \cdot 10^{-3}$	$1.03 \cdot 10^{-3}$
2	$-8.83 \cdot 10^{-3}$	$-6.88 \cdot 10^{-3}$	$1.33 \cdot 10^{-3}$
3	$-4.94 \cdot 10^{-4}$	$-7.38 \cdot 10^{-3}$	$8.10 \cdot 10^{-4}$
4	J/ψ		
5	$1.16 \cdot 10^{-3}$	$-1.51 \cdot 10^{-2}$	$2.36 \cdot 10^{-3}$
6	ψ'		
7	$2.90 \cdot 10^{-4}$	$-7.26 \cdot 10^{-3}$	$-8.28 \cdot 10^{-3}$
8	$-1.93 \cdot 10^{-3}$	$-6.81 \cdot 10^{-2}$	$1.23 \cdot 10^{-2}$

Additional or backup slides

