

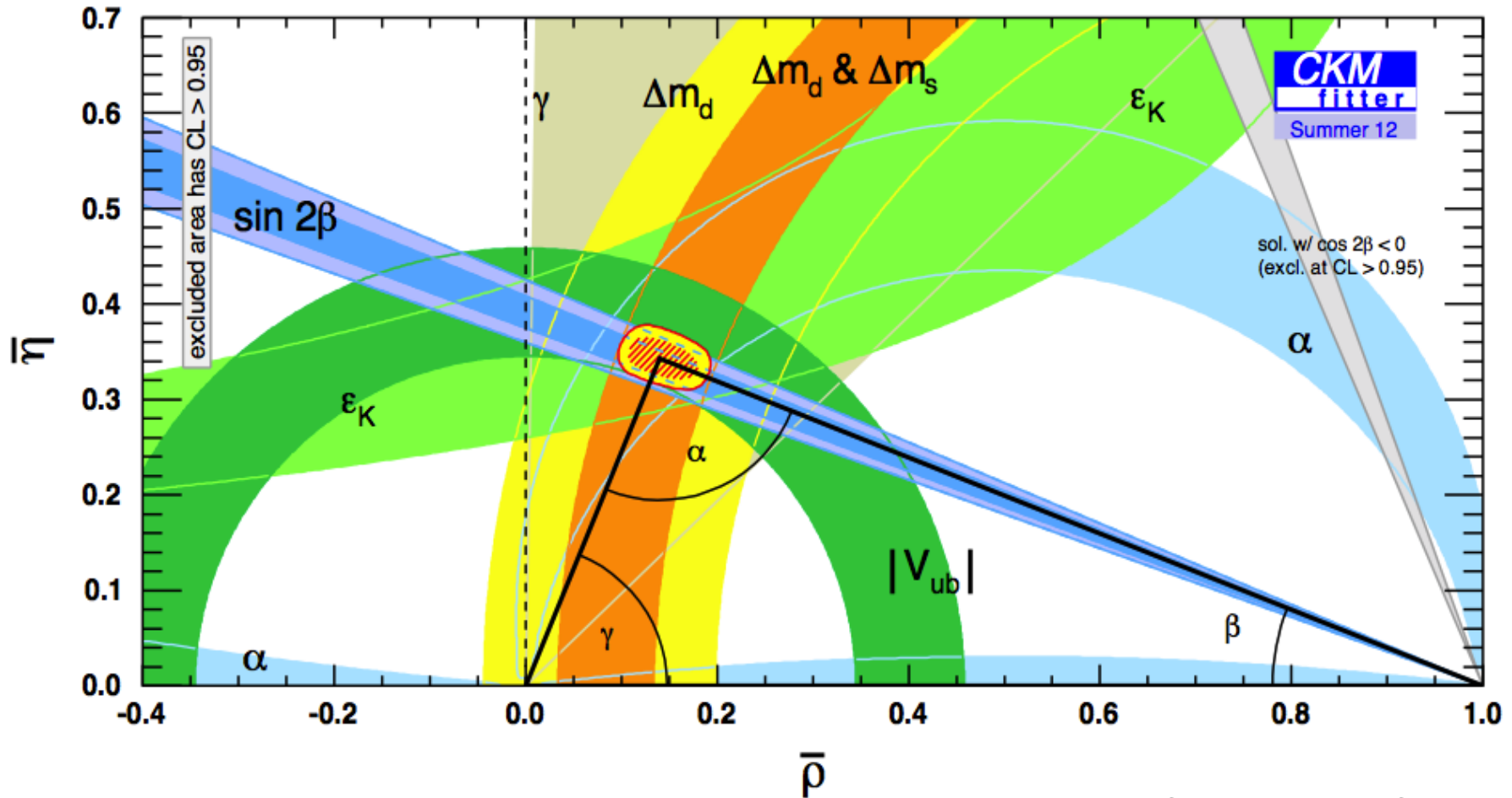
CKM γ at LHCb

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CERN Cross Talk, April 2013

2012



“combined γ measurements”

$$\gamma = (66^{+12}_{-12})^\circ$$

$$\gamma = (75.5 \pm 10.5)^\circ$$

CKMfitter ICHEP 2012

UTfit pre-ICHEP 2012

“full triangle fit”

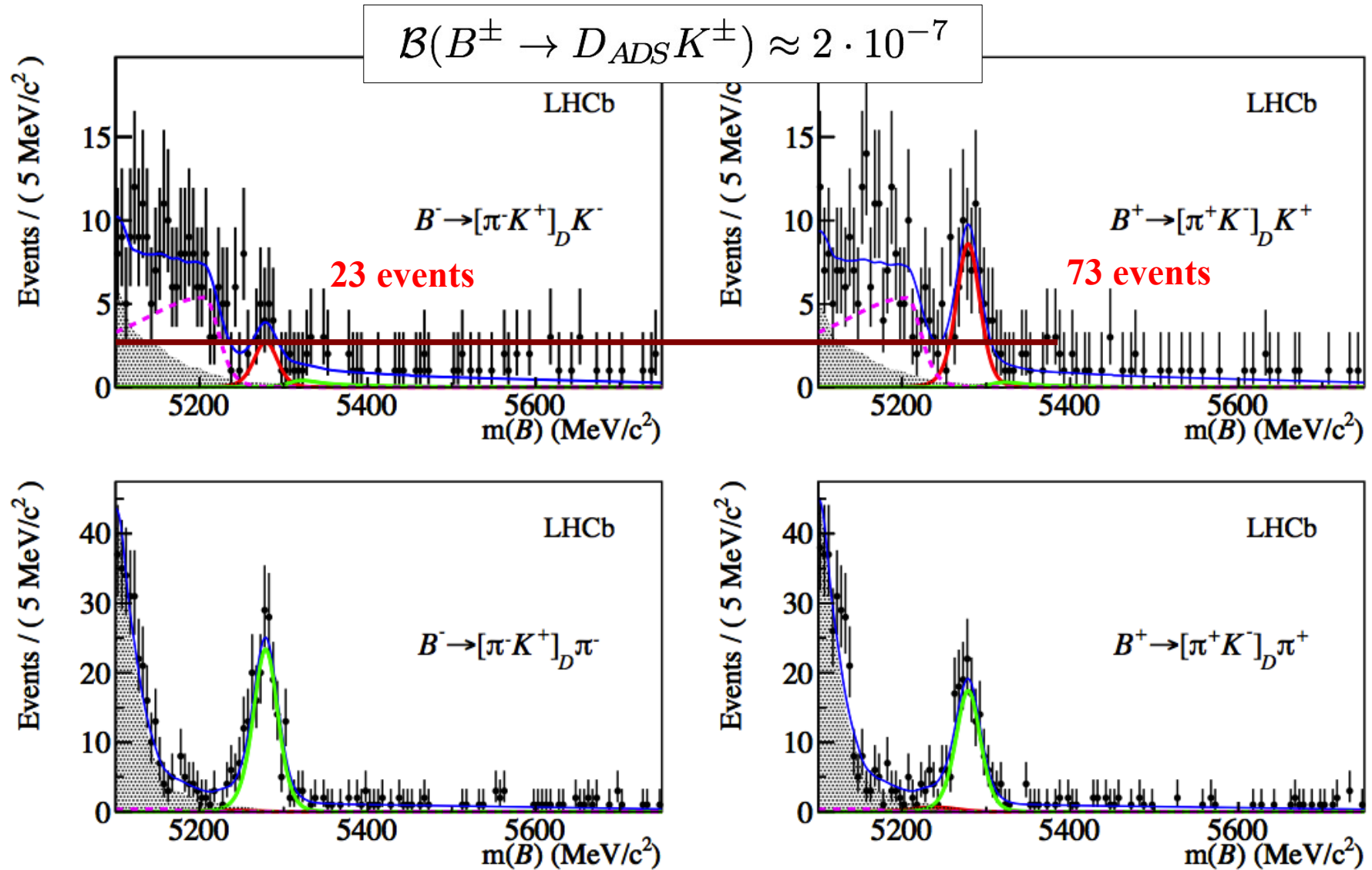
$$\gamma = (67.7^{+4.1}_{-4.3})^\circ$$

$$\gamma = (68.5 \pm 3.1)^\circ$$

B \rightarrow D(hh)K: Results

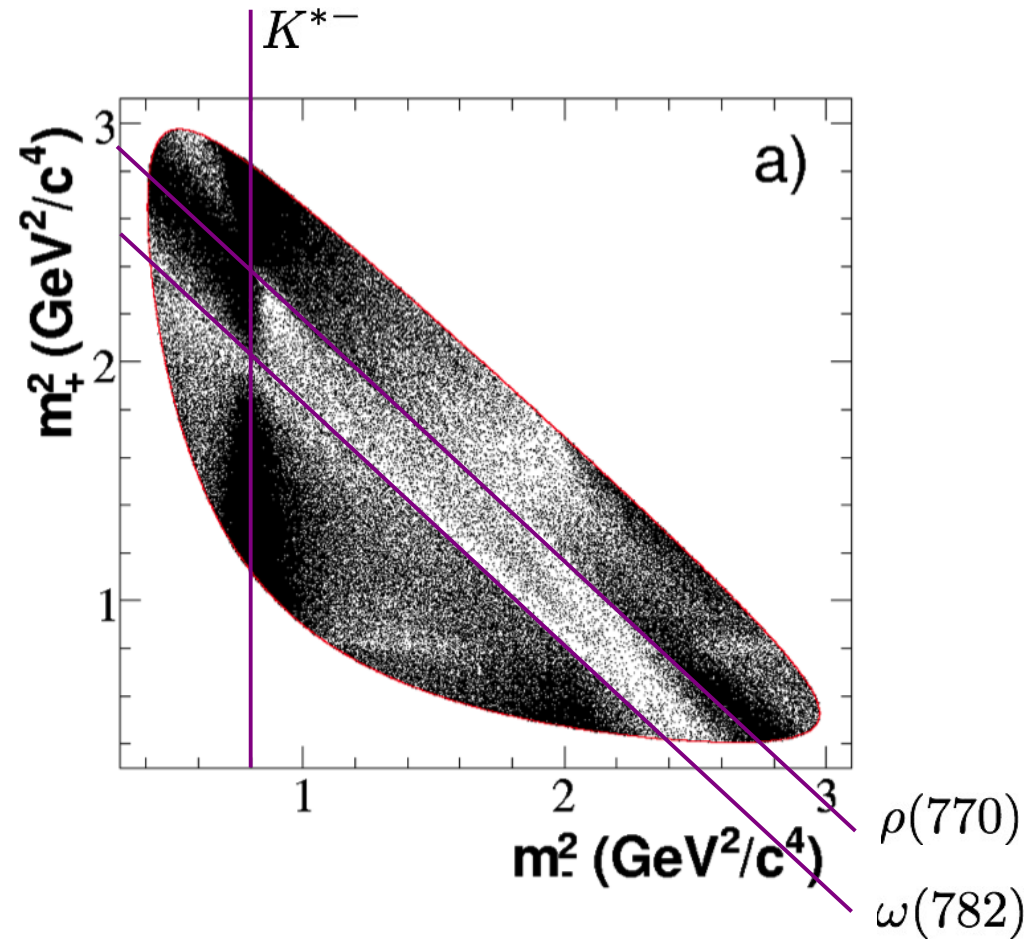
$$\begin{aligned}
 R_{K/\pi}^{K\pi} &= 0.0774 \pm 0.0012 \pm 0.0018 \\
 R_{K/\pi}^{KK} &= 0.0773 \pm 0.0030 \pm 0.0018 \\
 R_{K/\pi}^{\pi\pi} &= 0.0803 \pm 0.0056 \pm 0.0017 \\
 A_{\pi}^{K\pi} &= -0.0001 \pm 0.0036 \pm 0.0095 \\
 A_K^{K\pi} &= 0.0044 \pm 0.0144 \pm 0.0174 \\
 A_K^{KK} &= 0.1480 \pm 0.0369 \pm 0.0097 \\
 A_K^{\pi\pi} &= 0.1351 \pm 0.0661 \pm 0.0095 \\
 A_{\pi}^{KK} &= -0.0199 \pm 0.0091 \pm 0.0116 \\
 A_{\pi}^{\pi\pi} &= -0.0009 \pm 0.0165 \pm 0.0099 \\
 R_K^- &= 0.0073 \pm 0.0023 \pm 0.0004 \\
 R_K^+ &= 0.0232 \pm 0.0034 \pm 0.0007 \\
 R_{\pi}^- &= 0.00469 \pm 0.00038 \pm 0.00008 \\
 R_{\pi}^+ &= 0.00352 \pm 0.00033 \pm 0.00007
 \end{aligned}$$

$B \rightarrow D(hh)K$: suppressed ADS mode

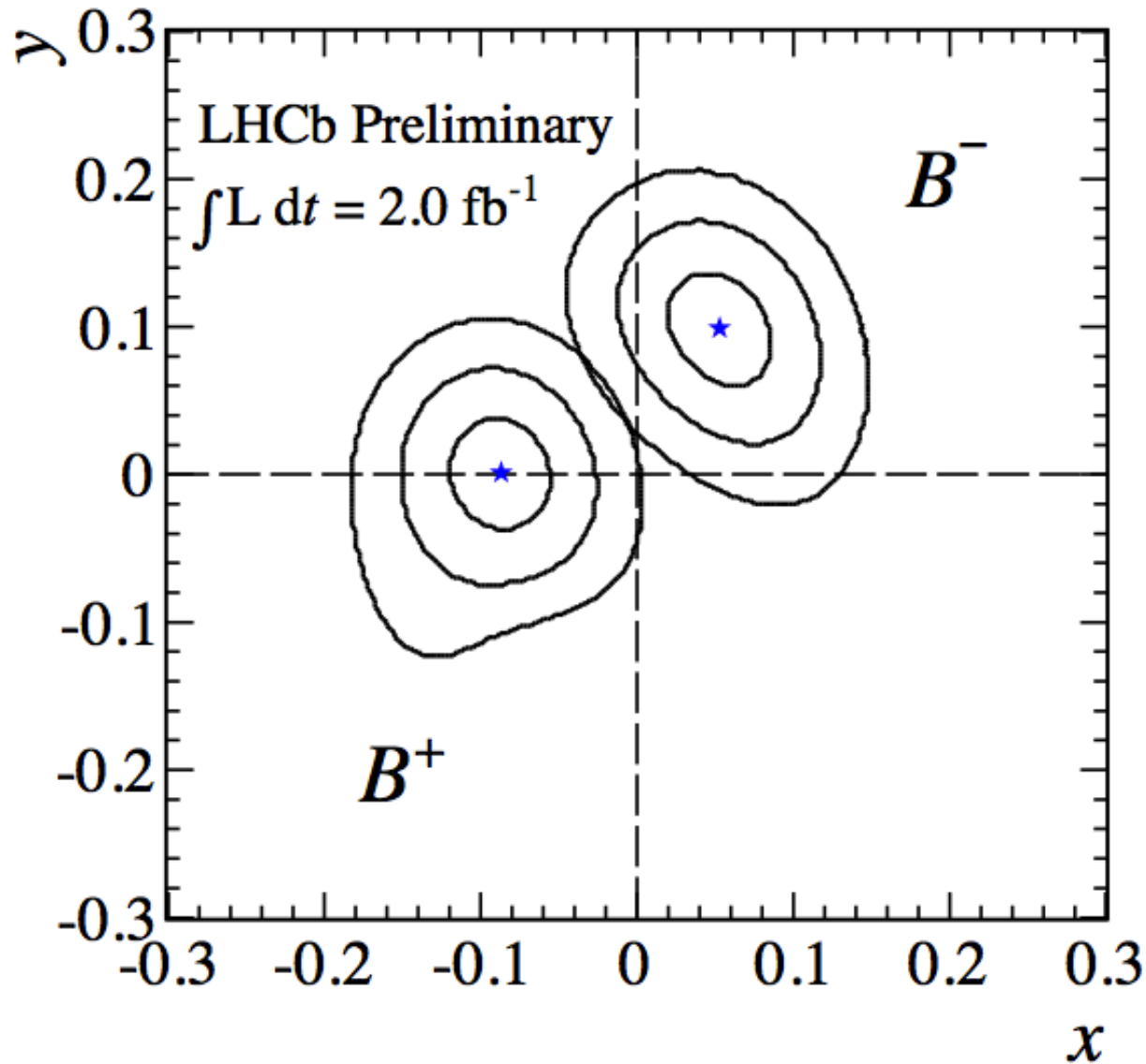


ARXIV:1203.3662

Dalitz Plot

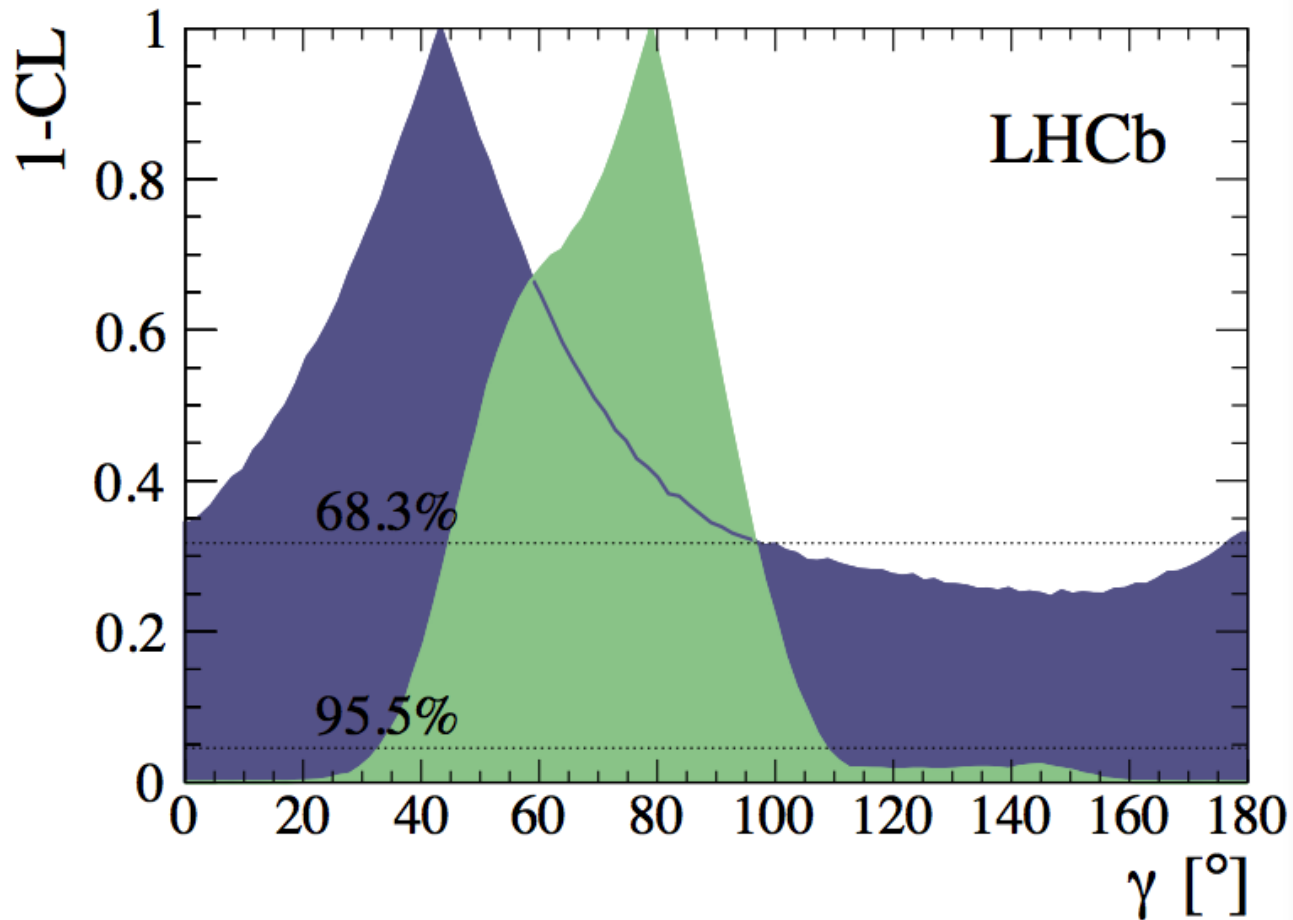


GGSZ



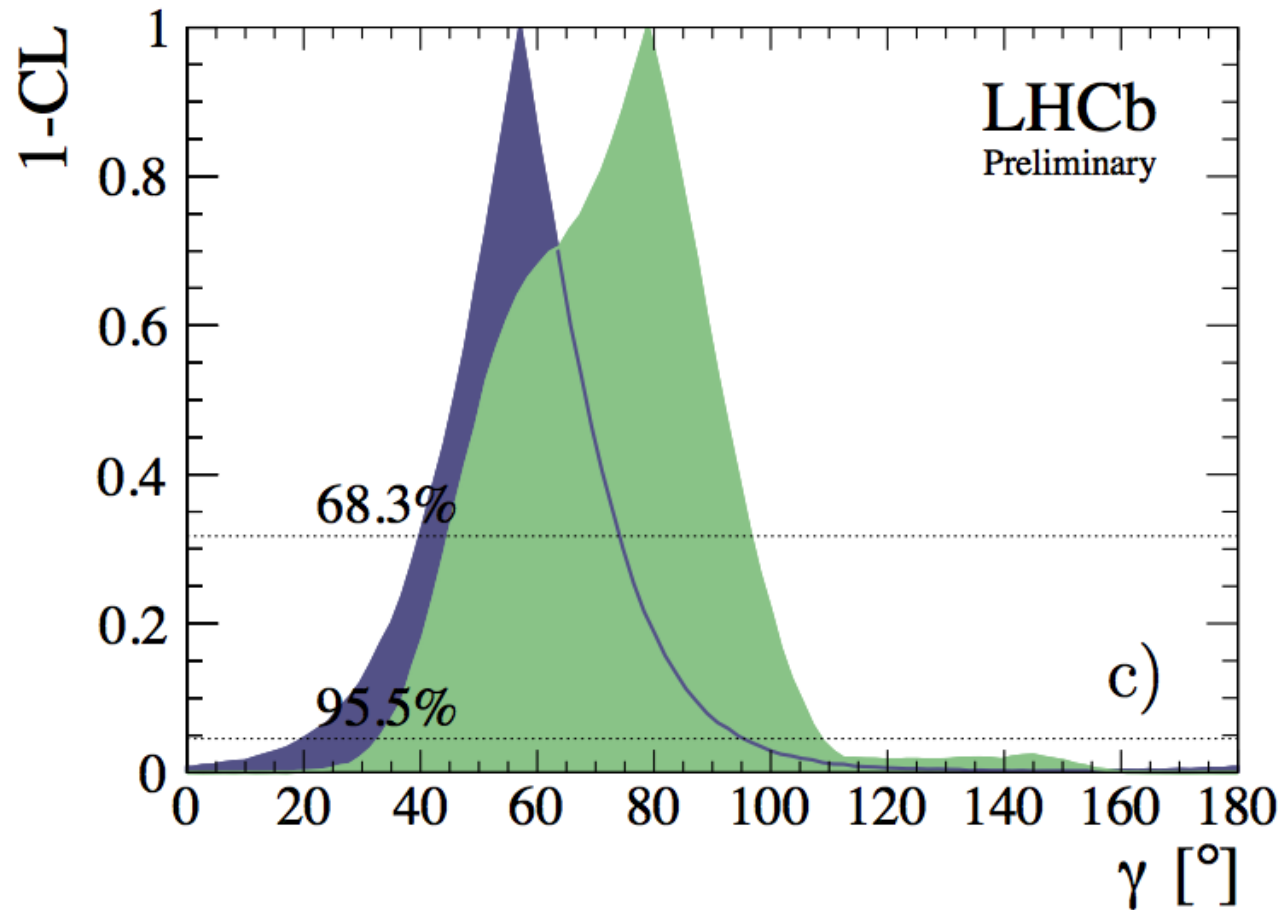
new!

GGSZ and GLW/ADS



GGSZ: 1fb^{-1} , GLW/ADS: 1fb^{-1}

GGSZ and GLW/ADS

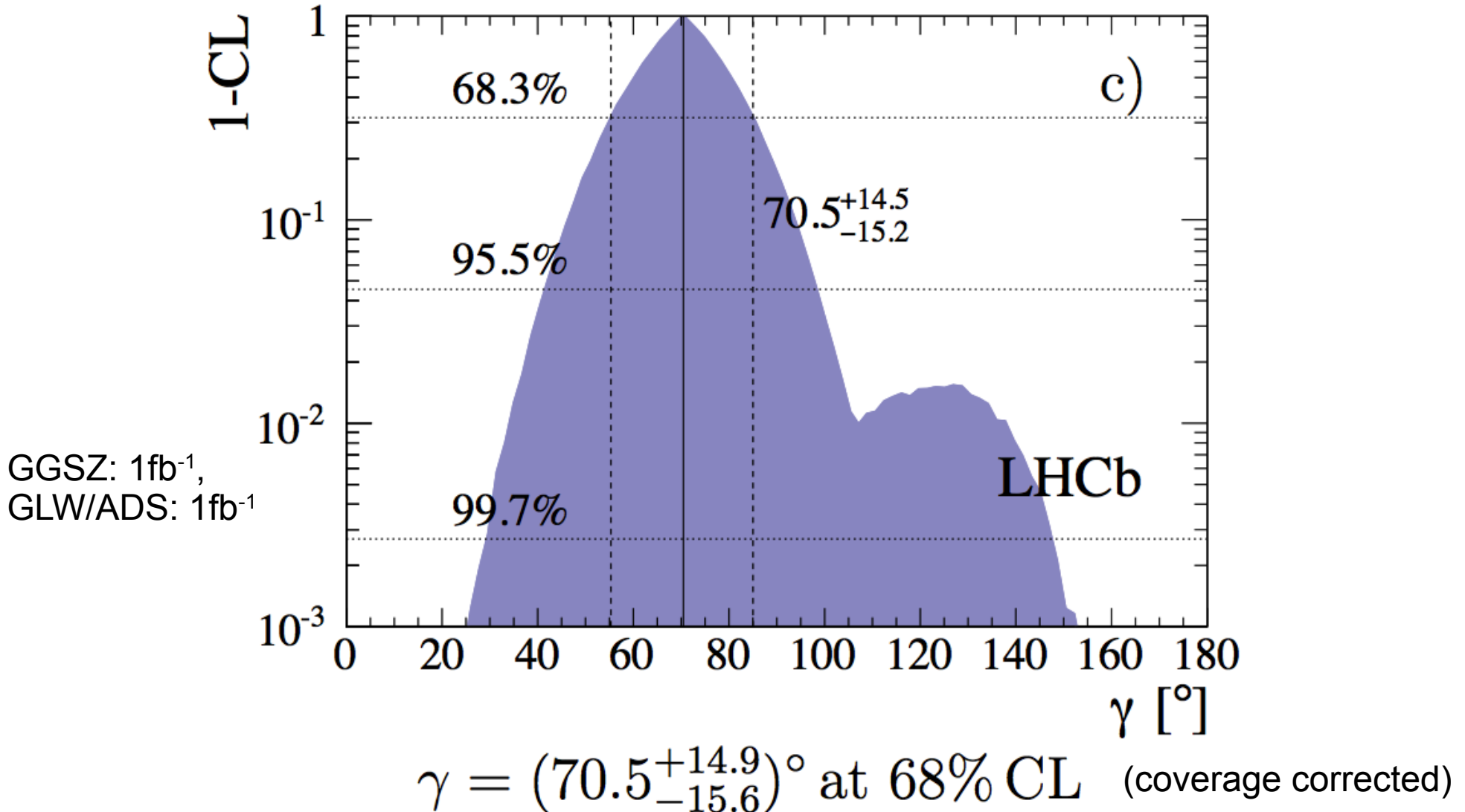


new!

GGSZ: 3fb^{-1} , GLW/ADS: 1fb^{-1}

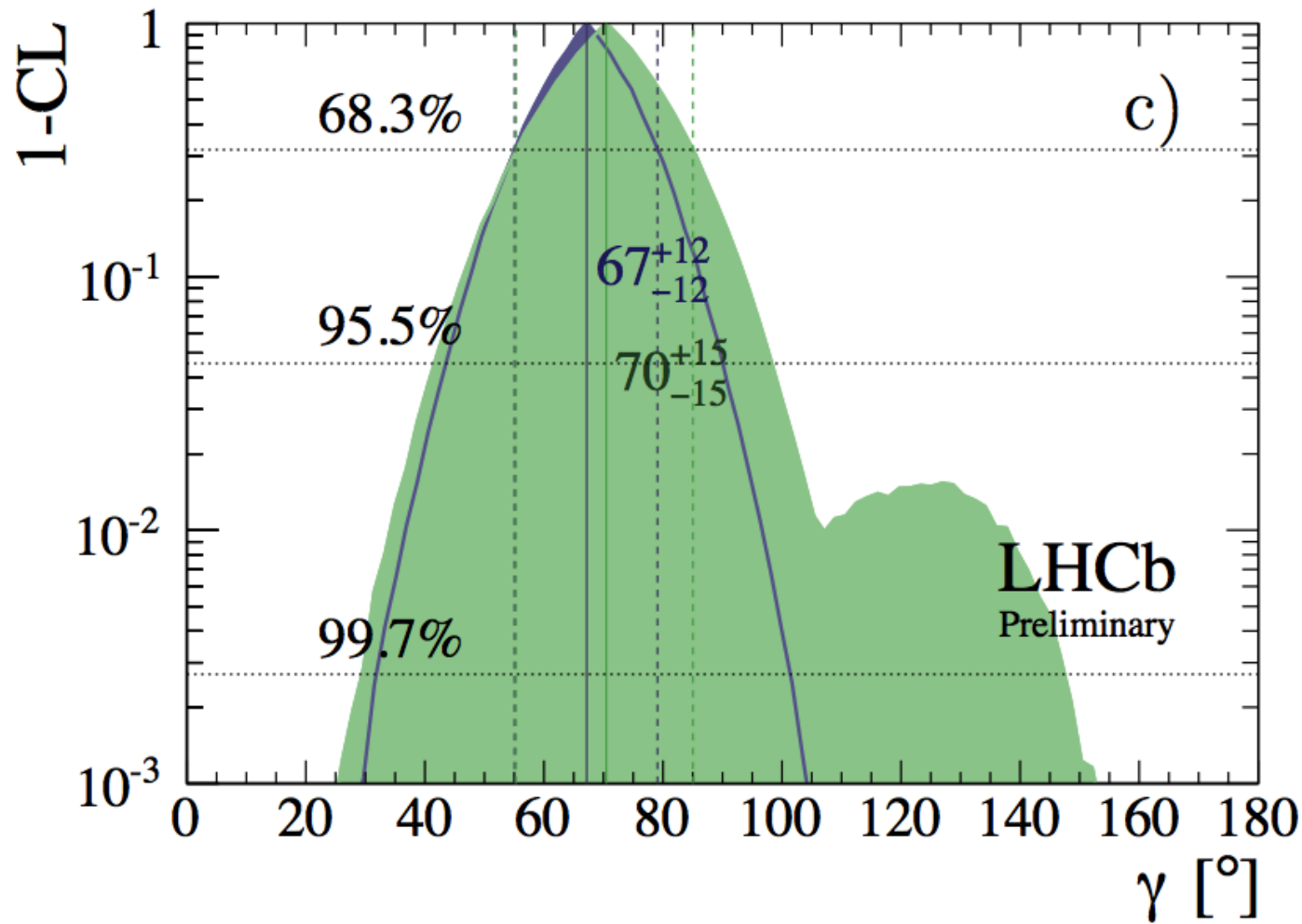
combining GGSZ with GLW/ADS

to be submitted to PLB



combining GGSZ with GLW/ADS

LHCb-CONF-2013-006

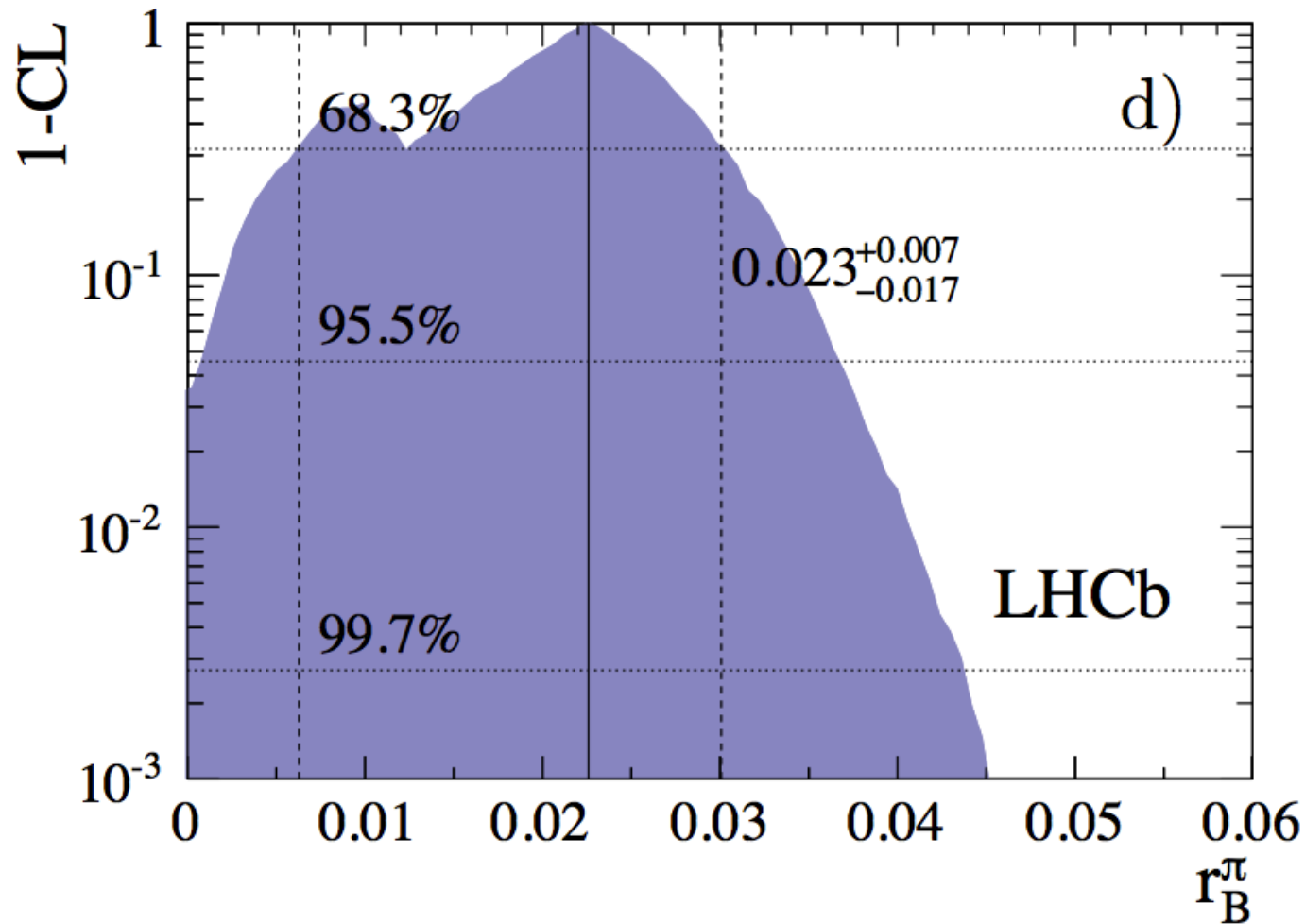


new!

GGSZ: 3fb^{-1} , GLW/ADS: 1fb^{-1}

adding $B \rightarrow D\pi$

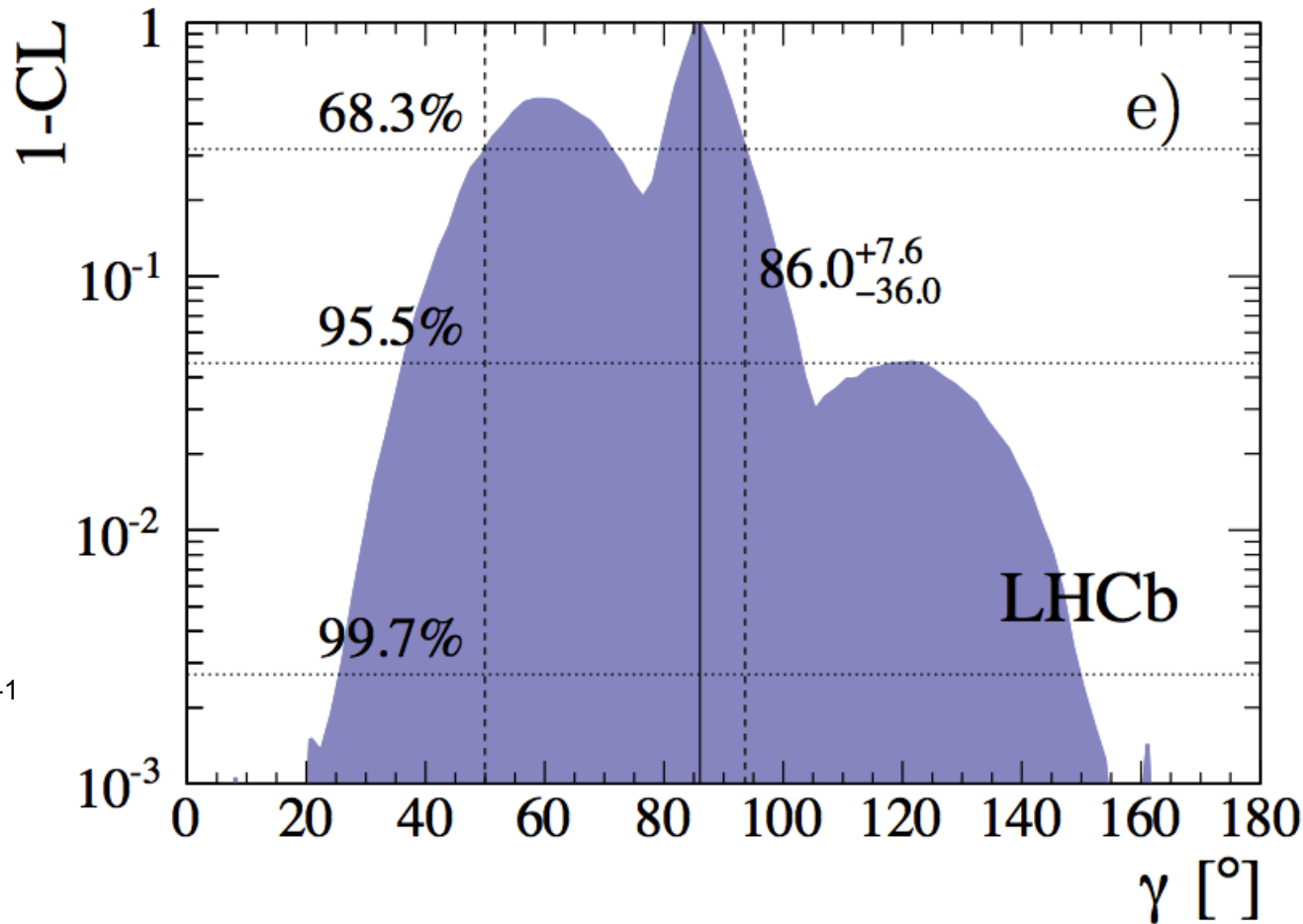
to be submitted to PLB



GGSZ: 1fb^{-1} , GLW/ADS: 1fb^{-1}

combining $B \rightarrow DK$ and $B \rightarrow D\pi$

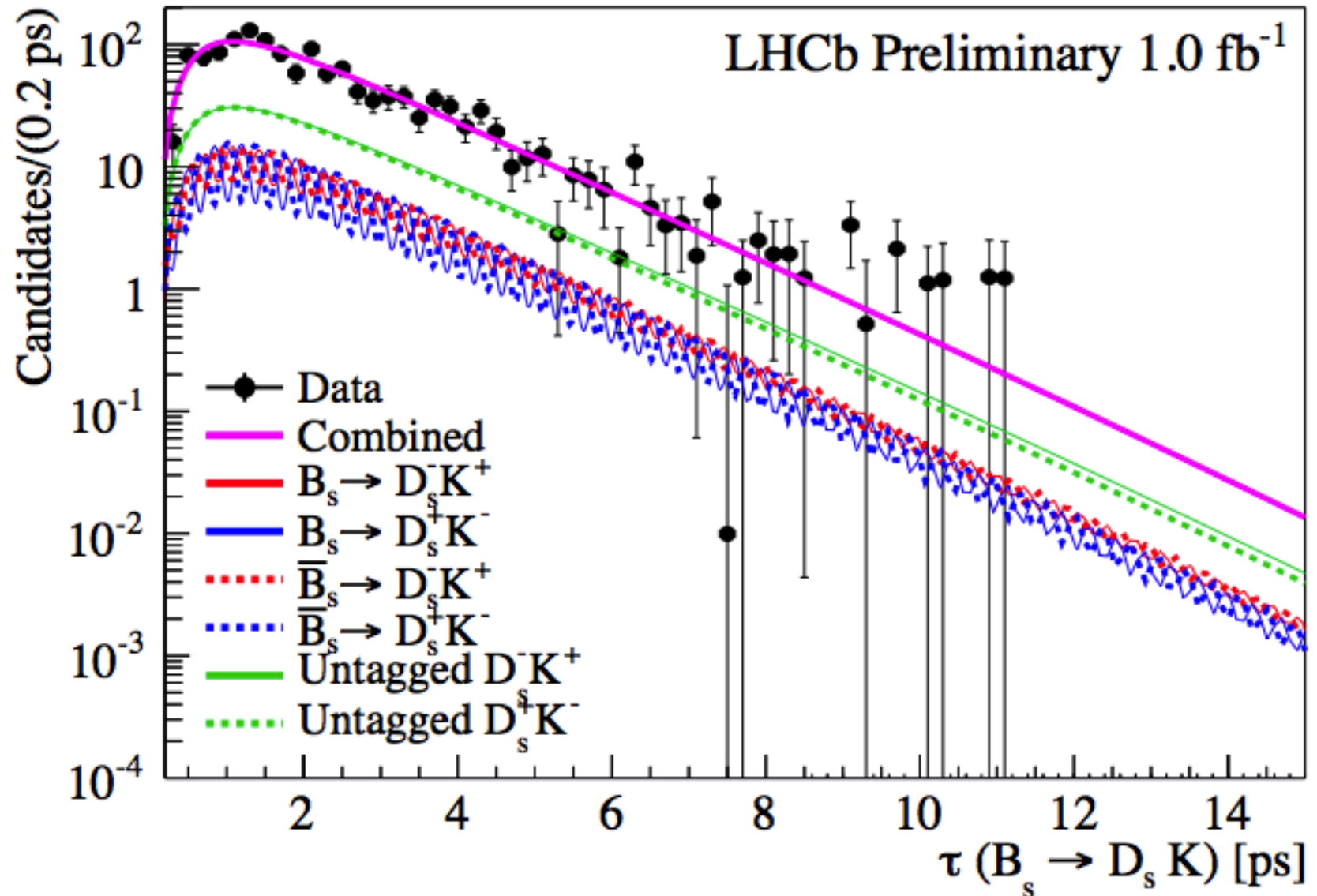
to be submitted to PLB



GGSZ: 1fb^{-1} ,
GLW/ADS: 1fb^{-1}

$\gamma \in [49.0, 72.5]^\circ \cup [79.1, 94.2]^\circ$ at 68% CL,
 $\gamma \in [35.2, 105.6]^\circ$ at 95% CL.
 } coverage corrected

time dependent D_sK



LHCb

