

2014

5 fb<sup>-1</sup>

2013

3 fb<sup>-1</sup>

2012

1 fb<sup>-1</sup>

2011

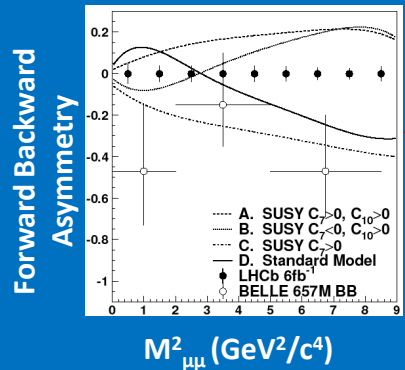
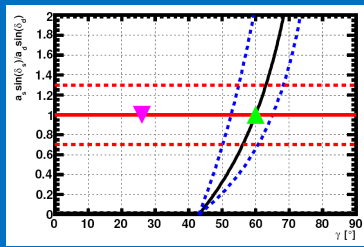
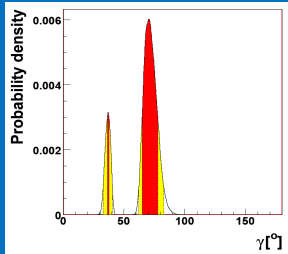
0.2 fb<sup>-1</sup>

2010

## LONG TERM GOALS

Tree/Loop determination of  $\gamma$  : precision measurement and discovery of New Physics

$B \rightarrow K^* \mu\mu$ : precision measurements of FBA, sensitivity to Wilson coefficients



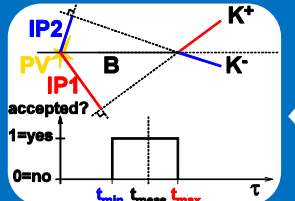
Penguin loop  $\gamma$  from  $B \rightarrow hh$  under U-spin, 10 fb<sup>-1</sup>

Tree level  $\gamma$  from  $B \rightarrow Dh$  under U-spin, 10 fb<sup>-1</sup>

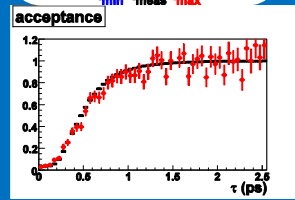
## MEDIUM TERM GOALS

Precision lifetime measurements in  $B/B_s/\Lambda_b \rightarrow hh, B/B_s/\Lambda_b \rightarrow Dh$

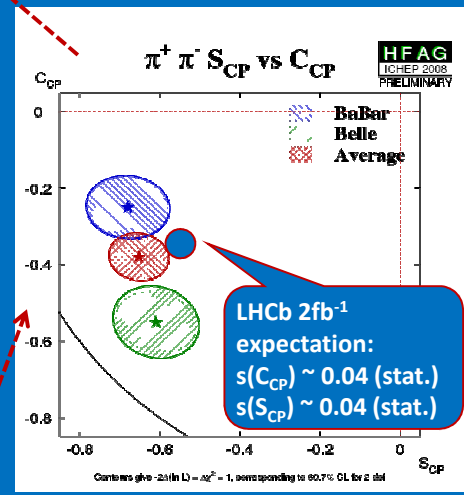
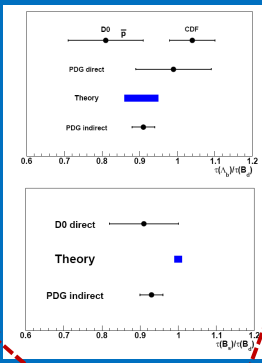
Sort out BaBar/Belle disagreement on CP asymmetry in  $B \rightarrow \pi\pi$



Lifetime acceptance measured without Monte Carlo!



Lifetime ratio measurements still controversial!



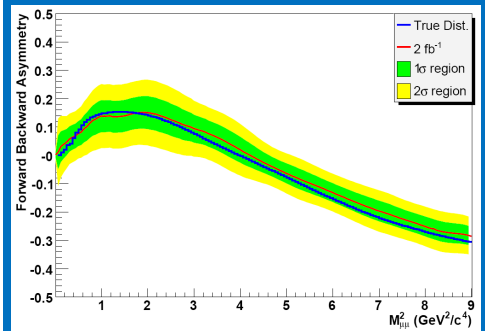
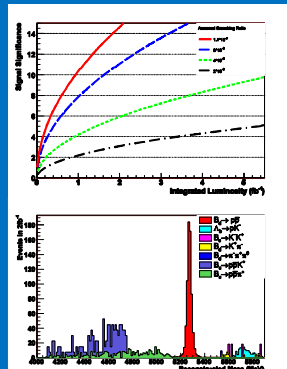
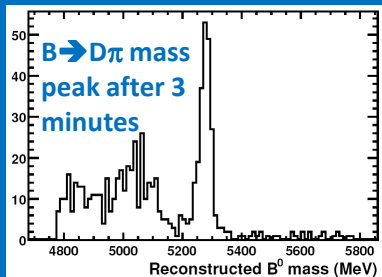
LHCb 2fb<sup>-1</sup> expectation:  
 $s(C_{CP}) \sim 0.04$  (stat.)  
 $s(S_{CP}) \sim 0.04$  (stat.)

## EARLY MEASUREMENTS

Huge D meson yields: CP violation, Lifetime measurements

Discovery of  $B \rightarrow pp$

$B \rightarrow K^* \mu\mu$ : pass B-factory statistics after 2 months



- Common fitting package
- Common systematic studies

- Two-body expertise
- RICH/VELO critical