

Roadmap

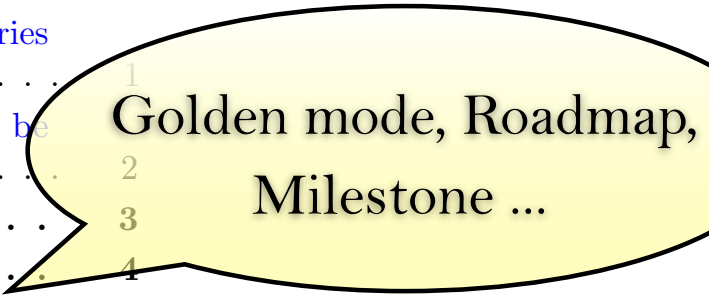
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MIAPP workshop, 15th November 2016

Chapter 1: Introduction section

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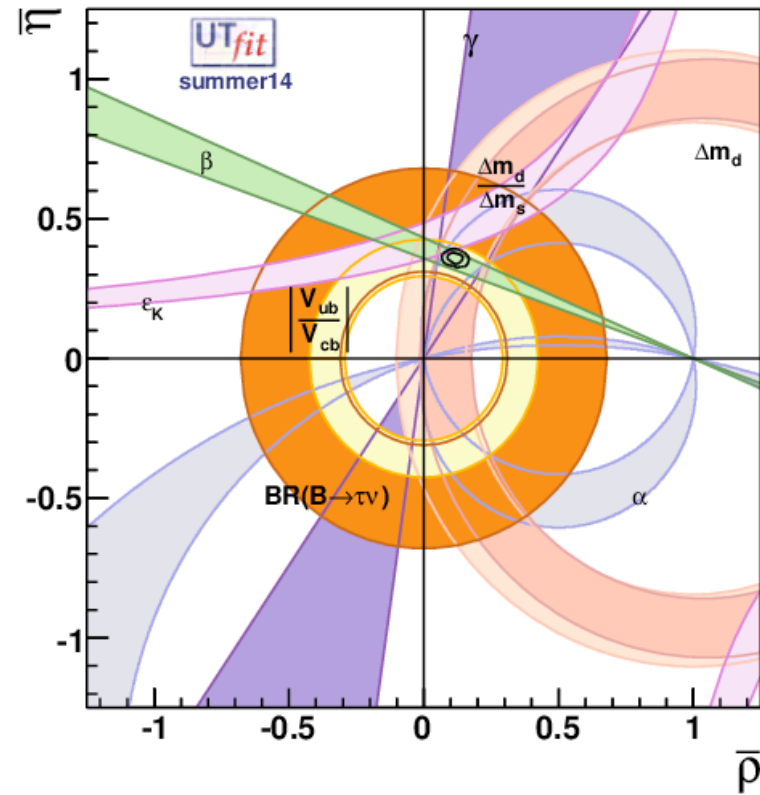
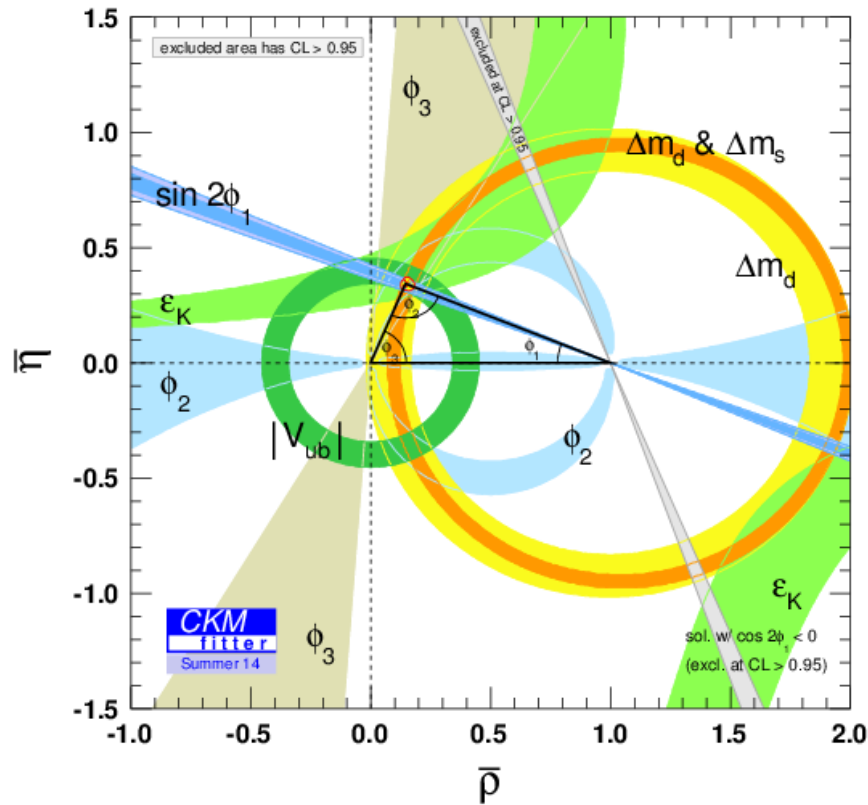
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Golden mode, Roadmap,
Milestone ...

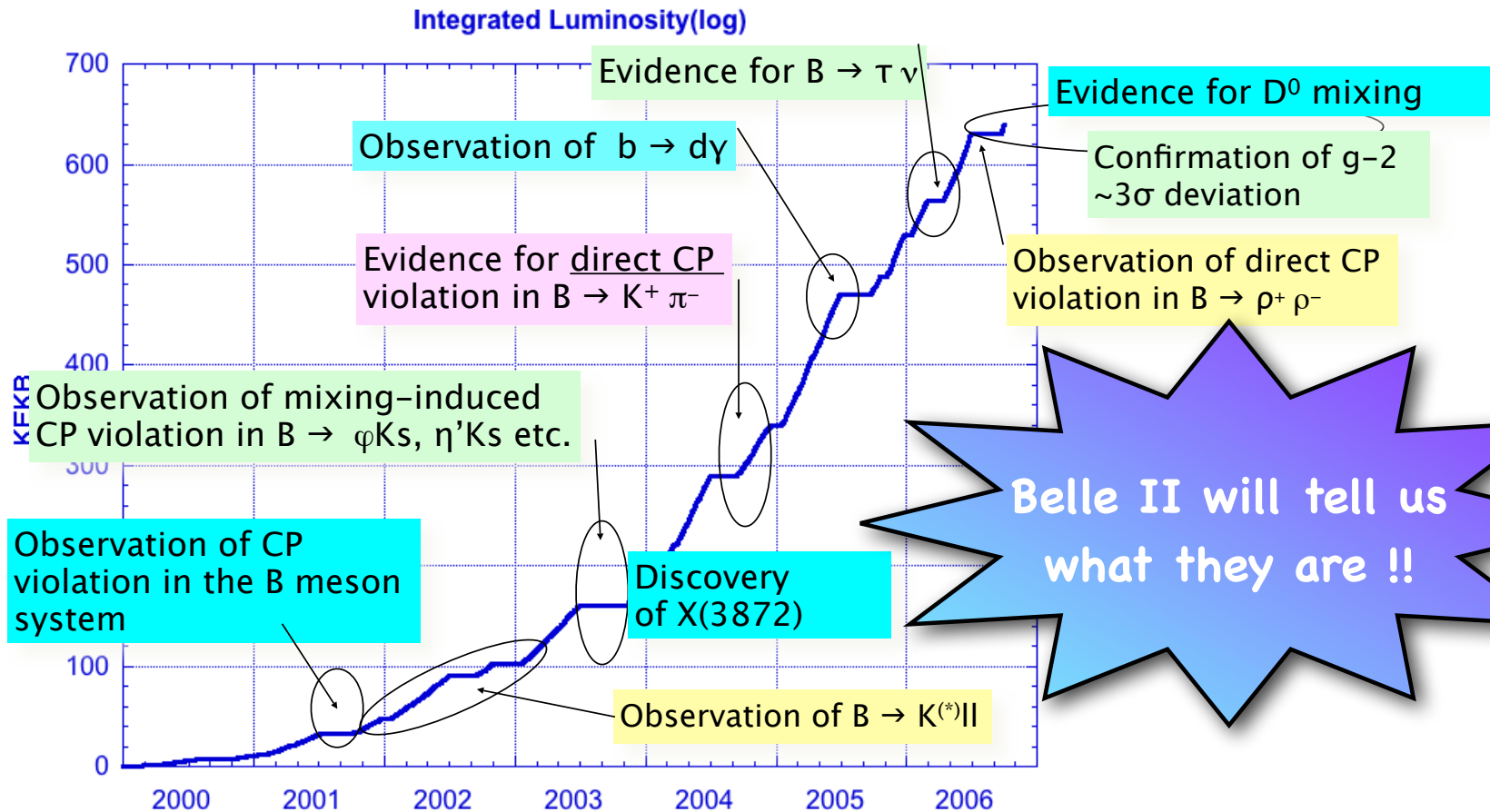
- This chapter will be used by Belle II collaboration at **various occasions**.
- The message has to be **crystal clear** and **attractive/aggressive !!**

What is the message???

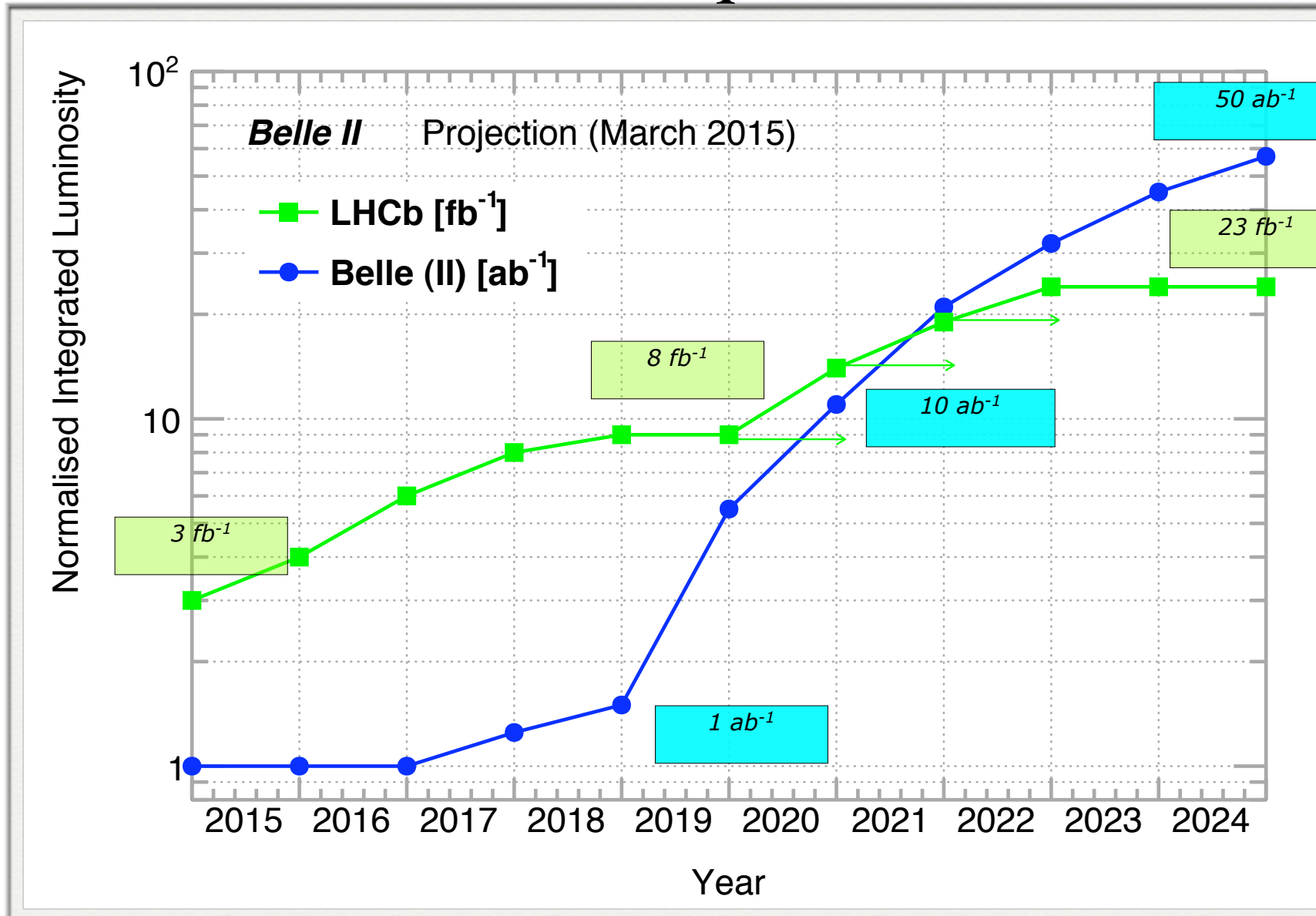


Legacy of Babar/Belle

Many $2\text{-}3\sigma$ seen, disappeared, unclear etc...



What is the roadmap for Belle II



Chapter 1: Introduction

To be updated

1.4 Golden channel

WG1	Observables	Belle	Belle II	
		(2014)	5 ab ⁻¹	50 ab ⁻¹
	V _{cb} incl.	41.6 · 10 ⁻³ (1 ± 1.8%) [?]	1.2%	
	V _{cb} excl.	37.5 · 10 ⁻³ (1 ± 3.0%)		
	V _{ub} incl.	4.47 · 10 ⁻³ (1 ± 6.0%)		
	V _{ub} excl. (had. tag.)	3.52 · 10 ⁻³ (1 ± 9.5%)		
	$\mathcal{B}(B \rightarrow \tau\nu)$ [10 ⁻⁶]	96(1 ± 27%) [?]		
	$\mathcal{B}(B \rightarrow \mu\nu)$ [10 ⁻⁶]	< 1.7 [?]		
	$R(B \rightarrow D\tau\nu)$	0.440(1 ± 16.5%) [?]		
WG3	sin 2β		0.667 ± 0.023 ± 0.012 [?]	0.012 0.008
	α [°]		85 ± 4 (Belle+BaBar) [?]	2 1
	$S(B \rightarrow \phi K^0)$		0.90 ^{+0.09} _{-0.19} [?]	0.053 0.018
	$S(B \rightarrow \eta' K^0)$		0.68 ± 0.07 ± 0.03 [?]	0.028 0.011
	$S(B \rightarrow K_S^0 K_S^0 K_S^0)$		0.30 ± 0.32 ± 0.08 [?]	0.100 0.033

For some Golden channels, we will see results quickly (e.g. @10 ab⁻¹), while some will take much longer. As a matter of fact, some channels even don't have results from Belle.

It is important to provide *Roadmap for Belle II*.

See Roadmap session on Thursday

- ✓ Clarifying the **scientific priority** from WG's point of view
- ✓ **A few impact plots** to exhibit the *power* of Belle II

Roadmap

- Golden channel (th): channels with theoretical uncertainties well under control
- Key channels (th): measurements which can provide the key to solve some theoretical question
- Milestone channel (ex): measurements which are useful to test the detector performance (to be done at early time)
- Existing anomaly channel (th/ex): as it says...
- New opportunity channel (th/ex): measurements which have never been done at Babar/Belle
- *Big* channel (th/ex): measurements which can make sense only after many channels are collected (hadronic decay, inclusive decay...)