

ϕ_2/α Section in PBF

Theory editor: Icarus Bigi

Belle editor: Tagir Aushev

BaBar editor: Yury Kolomensky

4th Physics of the B-Factories Book Workshop

July 1, 2011

Progress So Far

14.7	ϕ_2 , or α	80
14.7.1	Theory	80
14.7.2	$B^0 \rightarrow \pi^0 \pi^0$	82
14.7.3	$B^+ \rightarrow \rho^+ \pi^0$	84
14.7.4	$B^0 \rightarrow (\rho\pi)^0$	86
14.7.5	$B^+ \rightarrow \rho^+ \rho^0$	91
14.7.6	$B^0 \rightarrow \rho^+ \rho^-$	93
14.7.7	$B^0 \rightarrow \rho^0 \rho^0$	96
14.7.8	Weak phase ϕ_2 from $B^0 \rightarrow a_1(1260)^\pm \pi^\mp$	99

Tagir committed to SVN a few days ago, my revisions committed yesterday

Contributors

Theory section: I. Bigi

Experiments:

	$\pi^+\pi^-$	$\pi^0\pi^0$	$\pi\pi, K\pi, KK$	$(\rho\pi)^0$	$\rho^+\pi^0$	$\rho^+\rho^-$	$\rho^+\rho^0$	$\rho^0\rho^0$	$a_1^+\pi^-$
ϕ_2/Belle	K.Prothmann	Y.Chao	S.-W.Lin	A.Kusaka	J.Zhang	A.Somov	J.Zhang	C.- C.Chiang	J.Dalseno
α/BaBar	A.Telnov	A.Roodman	A.Telnov	M.Graham	F.Wilson	A.Bevan	W.Gary	G.Vasseur/ YGK	F.Palombo

Progress So Far

- First contributions from Tagir
 - Slowed by the earthquake
 - Received tarball from him on May 22
 - ☞ Based on Belle papers (a lot of recycled text)
 - I have been editing it (on and off) since
 - ☞ Added $a_1\pi$ section from Fernando Palombo
 - ☞ Edited intro to be a bit more general
 - ☞ Started going through the text

Editing

- My first thought was to simply split each section into “BaBar Analysis” and “Belle Analysis”
 - Simplest logistically
 - But boring to read
- So will go through with a more pedagogical approach
 - Will try to take out majority of “technical” details
 - ☞ Cuts and such will refer to original papers
 - Will try to make the text more generic, leave the common issues, and highlight the differences
- I will go through it once, and then will be ready to send the text to subsection editors for revisions

Issues

- No $\pi^+\pi^-$ section yet
 - Sasha Telnov committed to write – need to confirm
- Expect a number of “final” results to come
 - ☞ Belle q^+q^0 results based on 78/fb: is an update coming ?
 - ☞ BaBar expects to update q^+q^- to 465M B decays
 - We have postponed any work on averages etc until these results are out
 - ☞ For $\pi\pi$ and qq channels, will average BRs and S/C parameters, then run isospin analysis
 - ☞ For the $q\pi$ channels, will probably have to add χ^2 profiles
- Icarus has not reviewed the theory section yet