ϕ_2/α Section in PBF

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Overall Status

- Belle alpha/phi2 convener: Tagir Aushev
- Slow start on my part
  - Many things on my plate, if that's an excuse…
  - I'm starting on the organization, now that I can lift my head above water

Section Subdivision

Section ($\alpha/\varphi 2$)

- Subsection(Introduction) – 1p
- Subsection(Isospin analyses) – 2p
- Subsection ($\pi\pi$) – 6p
- Subsection ($\varrho\varrho$) – 6p
- Subsection ($\varrho\pi$) – 6p
- Subsection ($a_1\pi$) – 4p
- Subsection (Conclusion) – 2p

Approximate expected # pages needed for whole section: 27

Need to rely on common tools (MVA, tagging, VV angular analyses, Dalitz): consistent definitions, common macros

Issues

- Theory section: pretty well understood
  - Need generic discussion of the isospin relations, relative value of ππ, ρπ, ρρ
- Tools sections
  - MVA, multivariate likelihood fitting, tagging, event shape, VV angular analysis, TDCP, Dalitz plots
    - ☞ Most of it straightforward, though need to get notations consistent
    - ☞ Will probably save ~ a page for each section
- Writing level
  - Former/current analysts ideal
    - ☞ Given the length constraints, should not be too difficult to collect contributions (FLW)
    - ☞ Most difficult part is integration

Key Papers

Listing most recent publications

BaBar

Published

1) PRD **76,** 091102 ($\pi^0\pi^0$, $\pi^+\pi^0$, $K^+\pi^0$)
2) PRL **99,** 021603 (h^+h^-)
3) PRL **102**, 141802 (**$\rho^+\rho^0$**)
4) PRD **79**, 072006 (**$\rho\pi$**).
5) PRD **78**, 071104(R) (**$\rho^0\rho^0$**)
6) PRL **98**, 181803 ($a_1\pi$), PRD **81**, 052009 (a_1K)

Foreseen:

(π0π0,all hh, h+h-, ϱ+ϱ-,…)

Belle

Published

1) PRL **94**, 181803 (π0π0)
2) PRL **98**, 211801 (π+π−)
3) PRL **98**, 181804 (KK)
4) PRL **99**, 121601 (Kπ, ππ)
5) PRD **77**, 072001 (ρπ)
6) PRL **94**, 031801 (ρπ)
7) PRD **76**, 011104 (ρ+ρ−)
8) PRL **91**, 221801 (ρ+ρ0)
9) PRD **78**, 111102 (ρ0ρ0)

Foreseen:

#8 (ππ-3,ϱϱ-3,a1π,ϱ+π0)

Summary of Papers

- 7 from BaBar and 9 from Belle
  - Slightly different split
    - ☞ Combined papers in BaBar, individual in Belle
- In progress
  - Belle – 8 papers
  - BaBar has 5±2 in the works
- Obvious overlap with the charmless section
  - ☞ Focus on TDCP here – although need to decide where direct CP is discussed

Contributors

Theory section: I. Bigi

Experiments:

	$\pi^+\pi^-$	$\pi^0\pi^0$	$\pi\pi$,Kπ,K K	$(\rho\ \pi)^0$	$\rho^+\pi^0$	$\rho^+\rho^-$	$\rho^+\rho^0$	$\rho^0\rho^0$	$a_1^+\pi^-$
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 ?		A.Bevan	W.Gary	G.Vasseur/Y GK	F.Palombo