

Sectioning of the Book: Should we change the chapter order?

Bruce Yabsley

PBF Book Gen. Eds / Belle / University of Sydney High Energy Physics group

“Physics of the B-Factories”,
2nd Workshop, KEK 18th May 2010



What's settled, and what's been re-opened

- ▶ sectioning was, we thought, settled
- ▶ Parts A and B are \approx fixed:
 - ▶ I forgot {Angular,Dalitz} yesterday
 - ▶ there may be a minor tweak or two
- ▶ sections within the B-physics chapter have already been re-sorted:
 - ▶ minimise forward-reference
 - ▶ already conforms to Group 3 requests
- ▶ Pasha has proposed re-ordering the *chapters* in Part C:
 - ▶ simple things (QED/ISR, 2γ) early: a kind of technique or source
 - ▶ heavier things (charm, charmonia) late: interpretation goes here
- ▶ the position of B-physics is left ambiguous by this idea

Contents

The facilities	1
1 The B-factories	1
2 The detectors and collaborations	1
3 Datataking and Monte Carlo production summary	1
Tools and methods	1
4 Vertexing	1
5 Multivariate discriminants	1
5.1 Particle identification	1
5.2 Flavor tagging	1
5.3 Background discrimination	1
5.4 Analysis optimization	1
6 <i>B</i> -meson reconstruction	1
7 Time-dependent analyses	1
8 Maximum likelihood fitting	1
9 Angular analysis	1
10 Dalitz analysis	1
11 Blind analysis	1



Three options for Part C

NORMAL HIERARCHY

The results and their interpretation	1
12 <i>B</i> -physics	1
12.1 V_{ub} and V_{cb}	1
12.2 V_{td} and V_{ts}	1
12.3 Hadronic <i>B</i> to charm decays	1
12.4 Charmless <i>B</i> decays	1
12.5 Mixing, and EPR correlations	1
12.6 ϕ_1 (a.k.a. β)	1
12.7 ϕ_2 (a.k.a. α)	1
12.8 ϕ_3 (a.k.a. γ)	1
12.9 <i>CPT</i> violation	1
12.10 Radiative and electroweak penguin decays	1
12.11 Leptonic decays, and $B \rightarrow D^{(*)}\tau\nu$	1
12.12 Rare, exotic, and forbidden decays	1
12.13 Baryonic <i>B</i> decays	1
13 Quarkonium physics	1
13.1 Conventional charmonium	1
13.2 Exotic charmonium-like states	1
13.3 Bottomonium	1
14 Charm physics	1
14.1 <i>D</i> -mixing and <i>CP</i> violation	1
14.2 Charmed meson spectroscopy and decays	1
14.3 Charmed baryon spectroscopy and decays	1
15 Tau physics	1
16 QED and initial state radiation studies	1
17 Two-photon physics	1
18 $\Upsilon(5S)$ physics	1
19 QCD-related physics	1
19.1 Fragmentation	1
19.2 Pentaquark searches	1
20 Global interpretation	1

INVERTED HIERARCHY

The results and their interpretation	1
12 QED and initial state radiation studies	1
13 Two-photon physics	1
14 QCD-related physics	1
14.1 Fragmentation	1
14.2 Pentaquark searches	1
15 Tau physics	1
16 Charm physics	1
16.1 <i>D</i> -mixing and <i>CP</i> violation	1
16.2 Charmed meson spectroscopy and decays	1
16.3 Charmed baryon spectroscopy and decays	1
17 Quarkonium physics	1
17.1 Conventional charmonium	1
17.2 Exotic charmonium-like states	1
17.3 Bottomonium	1
18 <i>B</i> -physics	1
18.1 V_{ub} and V_{cb}	1
18.2 V_{td} and V_{ts}	1
18.3 Hadronic <i>B</i> to charm decays	1
18.4 Charmless <i>B</i> decays	1
18.5 Mixing, and EPR correlations	1
18.6 ϕ_1 (a.k.a. β)	1
18.7 ϕ_2 (a.k.a. α)	1
18.8 ϕ_3 (a.k.a. γ)	1
18.9 <i>CPT</i> violation	1
18.10 Radiative and electroweak penguin decays	1
18.11 Leptonic decays, and $B \rightarrow D^{(*)}\tau\nu$	1
18.12 Rare, exotic, and forbidden decays	1
18.13 Baryonic <i>B</i> decays	1
19 $\Upsilon(5S)$ physics	1
20 Global interpretation	1

MIXED HIERARCHY

The results and their interpretation	1
12 <i>B</i> -physics	1
12.1 V_{ub} and V_{cb}	1
12.2 V_{td} and V_{ts}	1
12.3 Hadronic <i>B</i> to charm decays	1
12.4 Charmless <i>B</i> decays	1
12.5 Mixing, and EPR correlations	1
12.6 ϕ_1 (a.k.a. β)	1
12.7 ϕ_2 (a.k.a. α)	1
12.8 ϕ_3 (a.k.a. γ)	1
12.9 <i>CPT</i> violation	1
12.10 Radiative and electroweak penguin decays	1
12.11 Leptonic decays, and $B \rightarrow D^{(*)}\tau\nu$	1
12.12 Rare, exotic, and forbidden decays	1
12.13 Baryonic <i>B</i> decays	1
13 QED and initial state radiation studies	1
14 Two-photon physics	1
15 QCD-related physics	1
15.1 Fragmentation	1
15.2 Pentaquark searches	1
16 Tau physics	1
17 Charm physics	1
17.1 <i>D</i> -mixing and <i>CP</i> violation	1
17.2 Charmed meson spectroscopy and decays	1
17.3 Charmed baryon spectroscopy and decays	1
18 Quarkonium physics	1
18.1 Conventional charmonium	1
18.2 Exotic charmonium-like states	1
18.3 Bottomonium	1
19 $\Upsilon(5S)$ physics	1
20 Global interpretation	1

