Contents

15.1 Conventional charmonium

Editors:
Riccardo Faccini (BABAR)
Pasha Pakhlov (Belle)
Nora Brambilla (theory)

The headings above were produced with the commands `\pbfshowsection{CCBAR}` and

```
\pbfshoweditors{Riccardo Faccini}
               {Pasha Pakhlov}
               {Nora Brambilla}
```

respectively for the *BABAR*, Belle, and theory editors of the section. They should be replaced with the label and editors' names of your own sectional unit. (A command `\pbfshowchapter` also exists.) Eventually these will set `chapter` and `section` counters to ensure proper labelling of subsections and so on, but currently they do not do so.

This template

This is the template for standalone writing and compilation of contributions to the book "Physics of the B-factories". It should allow contributors to sit down and start writing content for the book, and produce output close to the final look-and-feel without worrying about the full version of the book on SVN. The following files are included:

`pbf-standalone.tex`	LaTeX source of this file
`pbf-standalone-section-list.tex`	sectional units of the book
`pbf-sym.tex`	official symbols file
`multibib.sty`	necessary external package
`pbf-svjour.cls`	class file, adapted from EPJC
`pbf-svepj.clo`	class options file for the above
`pbf-titles.sty`	title reference package
`pbf-bib-bfactory.bst`	BibTeX style file
`pbf-bib-other.bst`	BibTeX style file
`pbf-bib-babar.bib`	bibliography file: *BABAR* papers
`pbf-bib-belle.bib`	bibliography file: Belle papers
`pbf-bib-other.bib`	bibliography file: other papers
`examples/`	directory with example figures
`pbf-make`	compilation commands

where the latter includes just

```
pdflatex pbf-standalone
bibtex   pbf-standalone
bibtex   BaBar
bibtex   Belle
pdflatex pbf-standalone
pdflatex pbf-standalone
```

which should be sufficient to compile PDF output from the source, resolving all references, except for cases where certain errors have corrupted LaTeX files on a previous run. If this occurs, try

```
rm pbf-standalone.aux
./pbf-make
```

For contributors' convenience this template includes rules and examples on the following subjects:

- Citations
- Bibliographies
- Tables
- Figures
- Notational changes
- Sectioning, labels, and cross-references

Citations

The basic citation of a Belle paper, given by the command `\citepBelle{Seuster:2005tr}` and so on, looks like this: physics studies include charm fragmentation (Seuster, 2006) and B-meson branchings to final states including charmed-strange mesons (Joshi, 2010). Note that the "et al" is suppressed in the citation, and the label in the bibliography, to avoid tedium; of course it appears in the bibliography in the authorlist itself. If the authorname needs to be incorporated into the grammar of the sentence, then the alternative form `\citeBelle{Sahu:1996me}` is available: important technical measurements were made by Sahu (1996).

Citations of *BABAR* papers proceed in exactly the same way, with a default form `\citepBaBar{Aubert:2002mn}`: physics studies include searches for violation of discrete symmetries (Aubert, 2002), and measurements of charmonium form factors (Lees, 2010); using the alternative form `\citeBaBar{Brose:1996hg}`, we can note that calorimeter design studies and beam test results were presented by Brose (1996).

Other `natbib`-style commands, with `BaBar` and `Belle` appended as appropriate, should also work, but should also not be necessary.

The majority of *BABAR* papers will have the same author field, so papers from the same year need to be distinguished: the papers (Aubert, 2001a) and (Aubert, 2001b) are not the same. (The same thing will happen for early Belle papers, and a few ones in later years.) Citing such papers together has suboptimal effects in the main text: (Aubert, 2001a,b). Note that the distinguishing letter will not be stable between standalone and full compilations of the book, or between re-edited versions of the book in general.

Papers by other authors, especially theoreticians, will clearly need to be cited. For example, someone will surely wish to cite Bigi and Sanda (2000).

Bibliographies

There are three bibliographies at the end of the document: one each for *BABAR*, Belle, and other papers. Each uses a customized format where a label resembling the standard citation is set off from the bibliographic entry, to make the (long!) list of papers easier to search. So, the theory work previously mentioned (Bigi and Sanda, 2000) has a label "Bigi and Sanda 2000:" followed by a newline, in the bibliography.

Each bibliography is constructed from its own file, included in this distribution: `pbf-bib-babar.bib`, `pbf-bib-belle.bib`, and `pbf-bib-other.bib`. Each has been constructed from `SPIRES` output in `BibTeX` format. The *BABAR* and Belle files should be reasonably complete, but will of course need to be updated over time: contributors should make updates at need. (If the instructions in the header are followed, there should be no ambiguity about names.) The "other" papers bibliography is almost empty at present; in the full version on SVN it will evolve rapidly, with almost every contribution; for this standalone code, only occasional updates will be made.

Note that the title of the other-papers bibliography is not coming out as requested, due to some `multibib` feature: this will be fixed in a future update. Other known problems or omissions, to be fixed in future releases, include

- detail of citation of `arXiv`-only papers;
- details of the display of added notes in `.bib` files, which may be necessary for some references;
- construction of an index;
- active references → URLs in the bibliography (and active links within the document itself).

Tables

Tables are an excellent way of summarizing large amounts of information, and we assume that most tables in the book will be dedicated summaries prepared for the purpose (comparable to Table 1), rather than being lifted from individual publications. There will of course be exceptions, perhaps where a whole class of measurement is represented by only one paper (such as in Table 2 below).

EPJC prefers an open style of table without vertical rules, and sparing use of horizontal rules. Other general notes:

- Captions should be placed above a table, but below a figure. Our rationalization of this common rule is that a table of numbers in general requires introduction, whereas a picture largely "speaks for itself".
- The `array` environment should be used to construct the table itself when the typical entry will be set in math mode, as in Table 1 (this will be the most common case); normal text mode for headings *etc.* can be recovered by use of `\text{Heading}`. Other cases should be set using `tabular`. Table 2, where only one column relies on math mode, has been prepared using `tabular`.
- Explicit + signs should be included on intrinsically signed quantities.
- Reduced-size text may be acceptable on a case-by-case basis to make a table more compact, but legibility

Table 1. Example of a table summarizing quantities from more than one paper: adapted from Vasseur (2008). Measurements of *CP* parameters, branching fractions, and fractions of longitudinal polarization in the $B \to \rho\rho$ modes.

	BABAR	Belle	Average
$S_{\rho^+\rho^-}$	$-0.17 \pm 0.20 \pm 0.06$	$+0.19 \pm 0.30 \pm 0.08$	-0.05 ± 0.17
$C_{\rho^+\rho^-}$	$+0.01 \pm 0.15 \pm 0.06$	$-0.16 \pm 0.21 \pm 0.08$	-0.06 ± 0.13
$\mathcal{A}_{\rho^+\rho^0}$	$-0.12 \pm 0.13 \pm 0.10$	$+0.00 \pm 0.22 \pm 0.03$	-0.08 ± 0.13
$C_{\rho^0\rho^0}$	$+0.4 \pm 0.9 \pm 0.2$	$--$	$+0.4 \pm 0.9$
$S_{\rho^0\rho^0}$	$+0.5 \pm 0.9 \pm 0.2$	$--$	$+0.5 \pm 0.9$
$\mathcal{B}_{\rho^+\rho^-}$ $[10^{-6}]$	$25 \pm 2 \pm 4$	$23 \pm 4 \pm 3$	24 ± 3
$\mathcal{B}_{\rho^+\rho^0}$ $[10^{-6}]$	$17 \pm 2 \pm 2$	$32 \pm 7^{+4}_{-7}$	18 ± 3
$\mathcal{B}_{\rho^0\rho^0}$ $[10^{-6}]$	$0.8 \pm 0.3 \pm 0.2$	$0.4 \pm 0.4 \pm 0.2$	0.7 ± 0.3
$f_L^{\rho^+\rho^-}$	$0.99 \pm 0.02 \pm 0.02$	$0.94 \pm 0.04 \pm 0.03$	0.98 ± 0.02
$f_L^{\rho^+\rho^0}$	$0.90 \pm 0.04 \pm 0.03$	$0.95 \pm 0.11 \pm 0.02$	0.91 ± 0.04
$f_L^{\rho^0\rho^0}$	$0.70 \pm 0.14 \pm 0.05$	$--$	0.70 ± 0.15

should be ensured: Table 1 is an example at the limit of reasonable use.

- Tables spanning two columns can be implemented using the `table*` environment. They should be used sparingly, but in some cases cannot be avoided: Table 2 is an example.
- Extra vertical space throughout a table can be added by using *e.g.* `\renewcommand{\arraystretch}{1.4}` inside the floating `table` environment, just before the `array` or `tabular` itself. In general this is necessary where super- and sub-scripted quantities are used in the body of the table, to avoid a cramped appearance. Where an `\hline` follows a line with significant subscripting, additional space following that line only, *via* (say) a `\\[0.5ex]` command, may be necessary.
- Horizontal space between columns may need to be explicitly added in some cases to ensure legibility: use of (say) `@{\hspace{1.0ex}}` in the columns argument of the `array` or `tabular` environment is appropriate (see Table 1 for an example).
- The `array` package is included by default, allowing extended control of the table format within the columns argument: Tables 3 and 4 show a simple example.

Tables running over more than one page are not supported at present, but support is foreseen in a future update. (The blockage is that the standard `longtable` package is not compatible with two-column documents. At least one workaround for this exists: the `revtex4` class patches the `longtable` commands to make them work in its two-column format. This or some other technique may be imported.) On occasion, landscape tables and figures may be required: this is currently supported via the `sidewaystable*` and `sidewaysfigure*` environments from the package `rotating`. Tables 3 and 4 are examples.

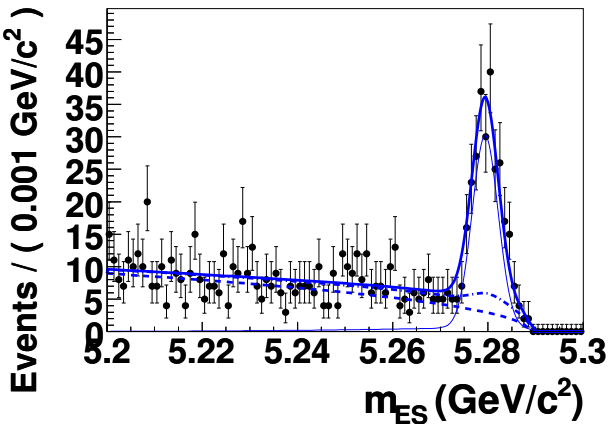


Fig. 1. Example of a `.pdf` plot constructed from an `.eps` original, with (1) the original notation M_{bc} changed to $m_{\rm ES}$ manually in the `.eps` file, and (2) the final version produced using `epstopdf` at the prompt on a Linux box. From Li (2008): $m_{\rm ES}$ distributions from $B^0 \to K^0_S\pi^+\pi^-\gamma$ events. Points with error bars are data. The curves show the results from the r dependent $m_{\rm ES}$ fit. The dashed and dash-dotted curves are the $q\overline{q}$ and all BG. The thin curve is the total signal including SCF and the thick curve is the total PDF.

Figures

To keep the length of the book within reasonable limits, we will need to be selective in the inclusion of figures; on the other hand, well-chosen and produced figures are irreplacable as a way of summarizing data and giving intuitive access to it. We will evolve some practical rules-of-thumb as we write the book, but for now we note that it will *not* in general be possible to include figures for every measurement, let alone a *BABAR* figure *and* a Belle figure for every measurement: we will have to be selective, choosing a mix of

- figures showing representative or "typical" cases,
- figures showing important exceptions or "special cases", and
- summary figures prepared especially for this book.

Currently acceptable formats for figures are `.pdf`, `.jpg`, and `.png` files: examples are shown below (Figs 1–4). As `pdflatex` is used to produce the output, `.eps` files may not be used, however methods to convert `.eps` to `.pdf` files are readily available and usually straightforward: examples are shown in Figs 1 and 4. In all cases where conversions have been made, the original file should also be uploaded to the PBF site.

Figures spanning both columns can be prepared using the `figure*` environment: Fig. 4 is an example. Note also the use of the `subfigure` package for ordering and captioning of individual plots.

Notational changes

The official PBF notation should be used throughout the text:

Table 2. Example of a table spanning two columns, produced using the `table*` environment. Note also the use of the `dcolumn` package in column 2, to give alignment on a comma; other extended functionality is available using the `array` package. The table is adapted from Go (2007): Time-dependent asymmetry in Δt bins, corrected for experimental effects, with statistical and systematic uncertainties. Contributions from event selection, background subtraction, wrong tag correction, and deconvolution are also shown.

Δt bin	window [ps]	A and total error	Statistical error	Systematic errors				
				total	event sel.	bkgd sub.	wrong tags	deconvolution
1	(0.0, 0.5)	$+1.013 \pm 0.028$	0.020	0.019	0.005	0.006	0.010	0.014
2	(0.5, 1.0)	$+0.916 \pm 0.022$	0.015	0.016	0.006	0.007	0.010	0.009
3	(1.0, 2.0)	$+0.699 \pm 0.038$	0.029	0.024	0.013	0.005	0.009	0.017
4	(2.0, 3.0)	$+0.339 \pm 0.056$	0.047	0.031	0.008	0.005	0.007	0.029
5	(3.0, 4.0)	-0.136 ± 0.075	0.060	0.045	0.009	0.009	0.007	0.042
6	(4.0, 5.0)	-0.634 ± 0.084	0.062	0.057	0.021	0.014	0.013	0.049
7	(5.0, 6.0)	-0.961 ± 0.077	0.060	0.048	0.020	0.017	0.012	0.038
8	(6.0, 7.0)	-0.974 ± 0.080	0.060	0.053	0.034	0.025	0.020	0.025
9	(7.0, 9.0)	-0.675 ± 0.109	0.092	0.058	0.041	0.027	0.022	0.022
10	(9.0, 13.0)	$+0.089 \pm 0.193$	0.161	0.107	0.067	0.063	0.038	0.039
11	(13.0, 20.0)	$+0.243 \pm 0.435$	0.240	0.363	0.145	0.226	0.080	0.231

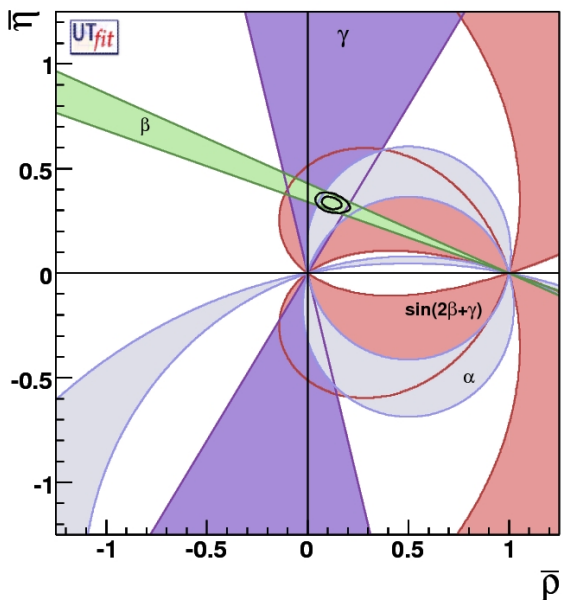


Fig. 2. Example of a `.jpg` figure from UTfit (Bona et al., 2010) current in June 2010: Allowed regions for $(\overline{\rho}, \overline{\eta})$, given by the measurements of $\sin 2\phi_1$, $\cos 2\phi_1$, ϕ_1 from $D^0\pi^0$, ϕ_2, ϕ_3, and $2\phi_1 + \phi_3$. (In the figure the alternative notation $(\beta, \alpha, \gamma) \equiv (\phi_1, \phi_2, \phi_3)$ is used.) The closed contours at 68% and 95% probability are shown. The full lines correspond to 95% probability regions for each constraint.

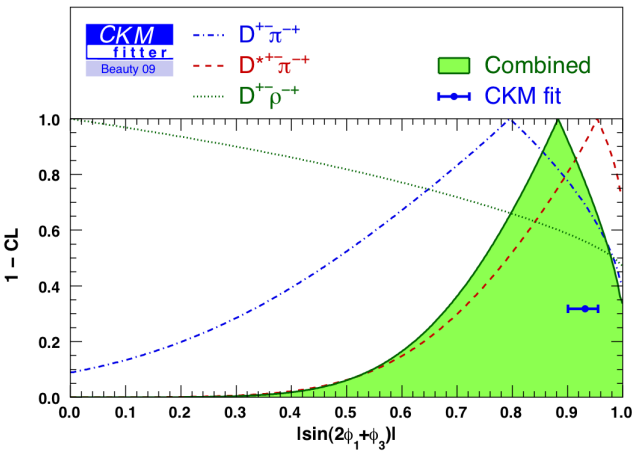
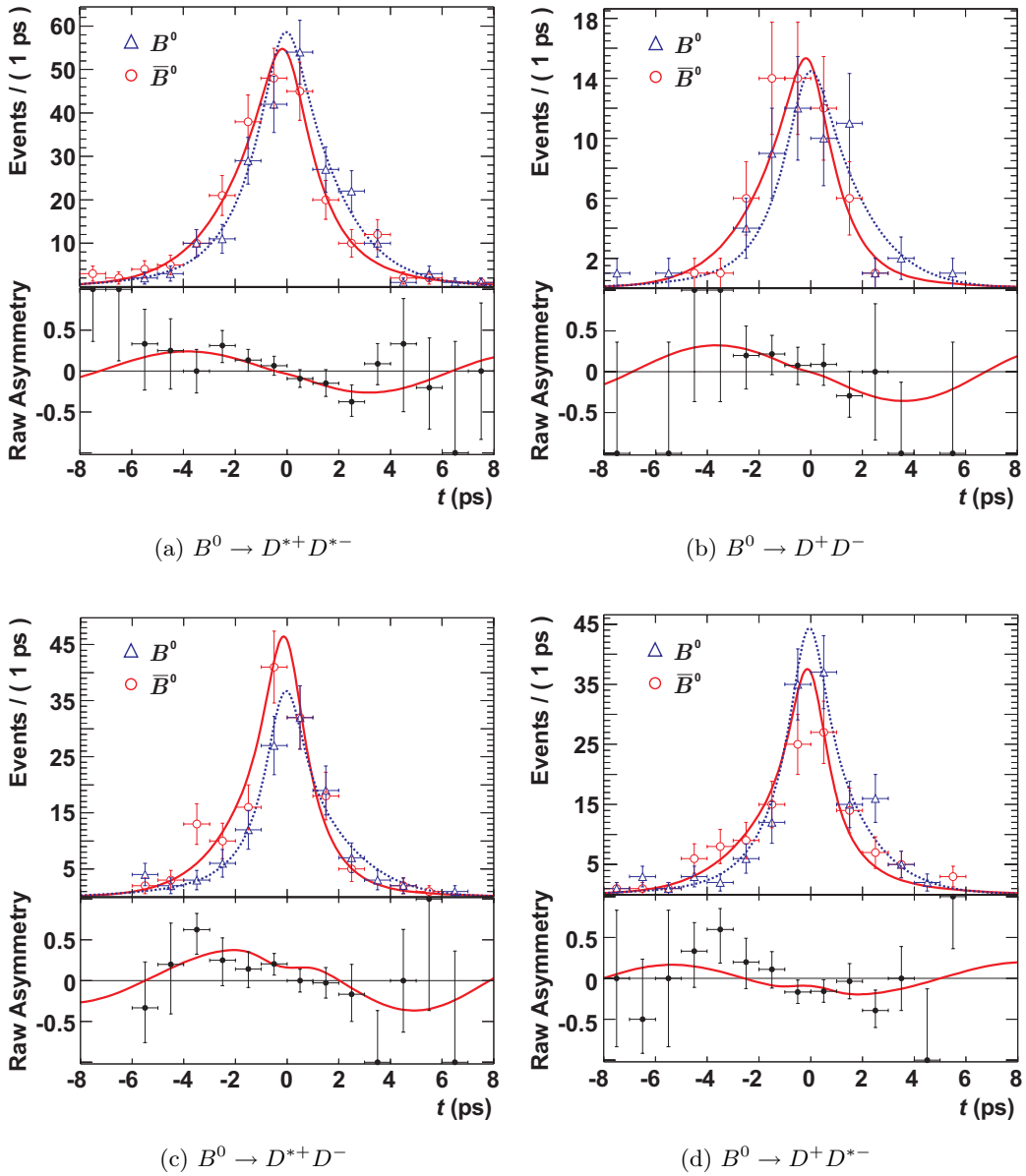


Fig. 3. Example of a `.png` figure, converted for this purpose from the original `.eps` file. From CKMfitter (Charles et al., 2005): Constraints on $|\sin(2\phi_1 + \phi_3)|$ from the measurement of time-dependent CP asymmetries in $D^{(*)}\pi(\rho)$; Summer 08 HFAG average including a preliminary Belle ICHEP08 update for $D^*\pi$ is used as input. The extraction of the UT-angle combination relies on $SU(3)$ symmetry for the estimates of the suppressed-to-leading amplitude ratios ... (see further specifics *ad loc*: not relevant for this example).

– (ϕ_1, ϕ_2, ϕ_3) for the angles of the unitarity triangle;
– (S, C) for the coefficients of time-dependent CP violation;
– $m_{\rm ES}$ for the "mass" variable inherited from earlier B-meson experiments;

and so on. This also applies to tables and figures, including plots and other graphical information within figures. In older (or relatively simply-constructed) `.eps` files, it will often be possible to edit notation by hand (e.g. Fig. 1), and/or using `pstoedit`/`xfig` or other simple programs. Plots produced under proprietary software (e.g. Adobe Illustrator) may need to be edited from source with those same programs, or otherwise remade from scratch. If the original has been produced by an outside group, such as Fig. 2, special effort may be required: here, the original notation has been retained; for the final version of the book we would make every effort to obtain or make a version with the notation converted to our standard.



(a) $B^0 \to D^{*+}D^{*-}$ (b) $B^0 \to D^{+}D^{-}$

(c) $B^0 \to D^{*+}D^{-}$ (d) $B^0 \to D^{+}D^{*-}$

Fig. 4. Example of a figure spanning both columns, produced with the `figure*` environment. PDF plots are used, converted from the original `.eps` files using `Preview` on a Mac in this case; arrangement of the individual plots within the figure is handled by the `tabular` environment, with the captions for the plots produced using `subfigure`. From Aubert (2009): Projections onto Δt of the fit result and the data in the region $m_{\rm ES} > 5.27\,{\rm GeV}/c^2$ for the three highest purity tagging categories. The triangular points and the dashed lines are for B^0 tagged events, and the circular points and solid lines are for $\overline{B}^0$ tagged events.

The file `pbf-sym.tex`, included in this release, includes macros for many standard particle names, symbols, and so on: these should be used where possible. This file will be updated over time.

Sectioning, labels, and cross-references

In this standalone template, the other chapters and sections of the book are present in virtual form: see the table of contents at the beginning of the output file. Labels for all of these sectional units have been defined, and are shown in Tables 3 and 4: these will not change. Stable cross-references to other parts of the book can therefore be made: for example, to Chapter 4 on "Vertexing" (within Part B, "Tools and methods"). If desired, the official sectional unit name can be accessed via a special command: `\pbftref{VTX}` and so on.

The principal labels have been chosen as a compromise between descriptiveness, compactness, and consistency. The typical case is a single word or contraction, but in some cases hyphenation has been used. Alternative

Table 3. List of the major sectional units of the book, their names, principal labels, and alternative labels; the list is continued in Table 4. The labels are not expected to change in the life of the book, and so can be used now to refer to other sections and chapters. Names of sectional units are also accessible using the `pbftref` command: for example, `\pbtref{VTX}` gives "Vertexing" in the output. When preparing labels for tables, figures, and equations, the principal label of the sectional unit should be used in the stem of the label: `TAB:VTX:EXAMPLE`, `FIG:VTX:EXAMPLE`, `EQ:VTX:EXAMPLE`, and so on. Implementation notes: this table and Table 4 have been constructed using the `sidewaystable*` environment to obtain landscape tables spanning a full page (as opposed to a single column of the text). The teletype font in the label columns is obtained by once-only commands in the column field: an example of the extended functionality of the `array` package.

Unit	Name	Label	Alternative labels
Part	The facilities	FACILITIES	--
Chapter	The B-factories	BFACT	FACILITIES-BFACT
Chapter	The detectors and collaborations	DETECTORS	FACILITIES-DETECTORS
Chapter	Datataking and Monte Carlo production summary	MCPROD	FACILITIES-MCPROD, DATA, FACILITIES-DATA, DATA-MCPROD, MCPROD-DATA
Part	Tools and methods	TOOLS	--
Chapter	Vertexing	VTX	TOOLS-VTX
Chapter	Multivariate discriminants	MVA	TOOLS-MVA
Section	Analysis optimization	OPT	MVA-OPT, TOOLS-MVA-OPT, TOOLS-OPT
Section	Particle identification	PID	MVA-PID, TOOLS-MVA-PID, TOOLS-PID
Section	Flavor tagging	FTAG	MVA-FTAG, TOOLS-MVA-FTAG, TOOLS-FTAG
Section	Background discrimination	BKGD	BACKGROUND, MVA-BKGD, MVA-BACKGROUND, TOOLS-MVA-BKGD, TOOLS-MVA-BACKGROUND, TOOLS-BKGD, TOOLS-BACKGROUND
Chapter	B-meson reconstruction	BRECON	TOOLS-BRECON
Chapter	Mixing and time-dependent analyses	TDEP	TIME-DEPENDENT, TOOLS-TDEP, TOOLS-TIME-DEPENDENT
Chapter	Maximum likelihood fitting	ML	TOOLS-ML
Chapter	Angular analysis	ANGULAR	TOOLS-ANGULAR
Chapter	Dalitz analysis	DALITZ	TOOLS-DALITZ
Chapter	Blind analysis	BLIND	TOOLS-BLIND
Chapter	Systematic error estimation	SYST	SYSTEMATICS, TOOLS-SYST, TOOLS-SYSTEMATICS
Part	The results and their interpretation	RESULTS	--
Chapter	The CKM matrix and the Kobayashi-Maskawa mechanism	CKM	UT, KM

Table 4. List of the major sectional units of the book, their names, and their labels, continued from Table 3.

Unit	Name	Label	Alternative labels
Chapter	B-physics	BPHYS	BPHYSICS, B
Section	$V_{\rm ub}$ and $V_{\rm cb}$	VXB	B-VXB, B-CKM-VXB
Section	$V_{\rm td}$ and $V_{\rm ts}$	VTY	B-VTY, B-CKM-VTY
Section	Hadronic B to charm decays	HAD	B-HAD, HADRONIC, B-HADRONIC, B-TO-C, B-TO-CHARM
Section	Charmless B decays	CHARMLESS	B-CHARMLESS
Section	Mixing, and EPR correlations	MIXING	B-MIXING, EPR, B-EPR, MIXING-EPR, EPR-MIXING
Section	ϕ_1, or β	PHI1	BETA, B-PHI1, B-BETA, B-CKM-PHI1, B-CKM-BETA
Section	ϕ_2, or α	PHI2	ALPHA, B-PHI2, B-ALPHA, B-CKM-PHI2, B-CKM-ALPHA
Section	ϕ_3, or γ	PHI3	GAMMA, B-PHI3, B-GAMMA, B-CKM-PHI3, B-CKM-GAMMA
Section	CPT violation	CPT	B-CPT
Section	Radiative and electroweak penguin decays	RAD	B-RAD, RADIATIVE, B-RADIATIVE, B-EWP, B-RAD-EWP, B-EWP-RAD
Section	Leptonic decays, and $B \to D^{(*)}\tau\nu$	LEPT	LEPTONIC, B-LEPT, B-LEPTONIC
Section	Rare, exotic, and forbidden decays	RARE	FORBIDDEN, B-RARE, B-EXOTIC, B-FORBIDDEN
Section	Baryonic B decays	BARY	B-BARY, BARYONIC, B-BARYONIC
Chapter	Quarkonium physics	ONIA	QUARKONIUM, QQBAR, QQ
Section	Conventional charmonium	CCBAR	CHARMONIUM, CC
Section	Exotic charmonium-like states	XYZ	EXOTICS
Section	Bottomonium	BBBAR	BOTTOMONIUM, BB, YNS, UPSILON
Chapter	Charm physics	CHARM	--
Section	Charmed meson decays	CHARM-DECAYS	CHARMED-DECAYS
Section	D-mixing and CP violation	DMIXING	D-MIXING, DMIX, D-MIX, CHARM-MIXING, CHARM-CPV, CHARM-MIXING-CPV
Section	Charmed meson spectroscopy	CHARM-SPECT	CHARMED-SPECT, CHARM-SPECTROSCOPY, CHARMED-SPECTROSCOPY
Section	Charmed baryon spectroscopy and decays	CHARM-BARYONS	CHARMED-BARYONS
Chapter	Tau physics	TAU	--
Chapter	QED and initial state radiation studies	QED	ISR, QED-ISR, ISR-QED
Chapter	Two-photon physics	TWO-PHOTON	TWO-GAMMA, 2-PHOTON, 2-GAMMA, 2PHOTON, 2GAMMA
Chapter	$\Upsilon(5S)$ physics	Y5S	YFIVES, FIVES, 5S, UPSILONFIVES, UPSILON5S
Chapter	QCD-related physics	QCD	QCD-RELATED
Section	Fragmentation	FRAG	FRAGMENTATION, QCD-FRAGMENTATION, QCD-FRAG
Section	Pentaquark searches	PQ	PENTAQUARK, PENTAQUARKS, QCD-PQ, QCD-PENTAQUARK, QCD-PENTAQUARKS
Chapter	Global interpretation	GLOBAL	FITS, GLOBAL-FITS
Section	Global CKM fits	GLOBAL-CKM	CKM-GLOBAL, FITS-CKM, CKM-FITS
Section	Benchmark "new physics" models	GLOBAL-NP	NP, NEW, GLOBAL-NEW

labels have also been defined, anticipating cases that some contributors may find more intuitive, systematic, and so on.

Labels for tables, figures, and equations should be constructed in the following tripartite form:

<TYPE>:<SECLABEL>:<NAME>

where

<TYPE> is one of TAB, FIG, EQ;
<SECLABEL> is the principal label of the sectional unit, taken from Tables 3 and 4; and
<NAME> is a name chosen by the contributor, which must of course be unique within that sectional unit for that kind of object.

Acceptable examples thus include

- for tables:
  `TAB:BRECON:MODES-BABAR`
  `TAB:VXB:SUMMARY`
  `TAB:Y5S:BRANCHINGS`
- for figures:
  `FIG:PID:CERENKOV`
  `FIG:PHI1:JPSI-KS-BELLE`
  `FIG:XYZ:Y4260-BABAR-DISCOVERY`
- for equations:
  `EQ:DALITZ:BLATT-WEISSKOPF`
  `EQ:CPT:SM-EXTENSION`
  `EQ:TAU:SECOND-CLASS`

Labels for (sub-)sections defined by contributors — at a logical level *below* (i.e. within) those listed in Tables 3 and 4 — should be constructed in the bipartite form

<SECLABEL>:<SUBNAME>

with some arbitrary examples being

```
MCPROD:RUNPERIODS-BELLE
ANGULAR:TRANSVERSITY
MIXING:EPR
QED:R
```

Bibliography: BaBar Publications

Aubert 2001a:
B. Aubert et al. "Measurement of J/ψ production in continuum e^+e^- annihilations near $\sqrt{s} = 10.6$ GeV". *Phys. Rev. Lett.* **87**, 162002 (2001). doi:10.1103/PhysRevLett.87.162002. `hep-ex/0106044`.

Aubert 2001b:
B. Aubert et al. "Observation of CP violation in the B^0 meson system". *Phys. Rev. Lett.* **87**, 091801 (2001). doi:10.1103/PhysRevLett.87.091801. `hep-ex/0107013`.

Aubert 2002:
B. Aubert et al. "Search for T and CP violation in $B^0 - \overline{B}^0$ mixing with inclusive dilepton events". *Phys. Rev. Lett.* **88**, 231801 (2002). doi:10.1103/PhysRevLett.88.231801. `hep-ex/0202041`.

Aubert 2009:
B. Aubert et al. "Measurements of time-dependent CP asymmetries in $B^0 \to D^{(*)+}D^{(*)-}$ decays". *Phys. Rev.* **D79**, 032002 (2009). doi:10.1103/PhysRevD.79.032002. `0808.1866`.

Brose 1996:
J. Brose. "BaBar CsI calorimeter design and first beam test results". *Nucl. Instrum. Meth.* **A379**, 495–498 (1996). doi:10.1016/0168-9002(96)00684-5.

Lees 2010:
J. P. Lees et al. "Measurement of the $\gamma\gamma^* \to \eta_c$ transition form factor". *Phys. Rev.* **D81**, 052010 (2010). doi:10.1103/PhysRevD.81.052010. `1002.3000`.

Bibliography: Belle Publications

Go 2007:
A. Go et al. "Measurement of EPR-type flavour entanglement in $\Upsilon(4S) \to B^0\bar{B}^0$ decays". *Phys. Rev. Lett.* **99**, 131802 (2007). doi:10.1103/PhysRevLett.99.131802. `quant-ph/0702267`.

Joshi 2010:
N. J. Joshi et al. "Measurement of the branching fractions for $B^0 \to D_s^{*+}\pi^-$ and $B^0 \to D_s^{*-}K^+$ decays". *Phys. Rev.* **D81**, 031101 (2010). doi:10.1103/PhysRevD.81.031101.

Li 2008:
J. Li et al. "Time-dependent CP Asymmetries in $B^0 \to K_S^0\rho^0\gamma$ Decays". *Phys. Rev. Lett.* **101**, 251601 (2008). doi:10.1103/PhysRevLett.101.251601. `0806.1980`.

Sahu 1996:
S. K. Sahu et al. "Measurement of radiation damage on a silica aerogel Cherenkov radiator". *Nucl. Instrum. Meth.* **A382**, 441–446 (1996). doi:10.1016/S0168-9002(96)00768-1. `hep-ex/9604004`.

Seuster 2006:
R. Seuster et al. "Charm hadrons from fragmentation and B decays in e^+e^- annihilation at $\sqrt{s} = 10.6$ GeV". *Phys. Rev.* **D73**, 032002 (2006). doi:10.1103/PhysRevD.73.032002. `hep-ex/0506068`.

Bibliography

Bigi and Sanda 2000:
I. I. Y. Bigi and A. I. Sanda. "CP violation". *Camb. Monogr. Part. Phys. Nucl. Phys. Cosmol.* **9**, 1–382 (2000).

M. Bona et al. "UTfit". 2010. URL `http://www.utfit.org/`.

Charles et al. 2005:
J. Charles et al. "CP violation and the CKM matrix: Assessing the impact of the asymmetric B factories". *Eur. Phys. J.* **C41**, 1–131 (2005). doi:10.1140/epjc/s2005-02169-1. `hep-ph/0406184`.

Vasseur 2008:
G. Vasseur. "Measurements of the angle α (ϕ_2) at B factories" `0810.0469`.