

Production of the Review of Particle Physics

Piotr Zyla
LBNL
September 2006

Production team of 2006 edition

- Piotr Zyla (editor)
- Orin Dahl (utility programs / TeX macros)
- Gail Harper (verifies, reviews, etc.)
- Paul Schaffner (graphics)

Some 2006 RPP statistics

- 50 -- encoders and overseers
- 116 -- review authors (total)
- 40 -- stand alone reviews
- 70 -- data driven reviews

PDG 2006 publications

- RPP Book – 1232 pages (10% increase)
- Data Booklet – 320 pages (no increase)
- Web edition
- Pocket Diary (G. Harper, E. Essman)
- pdgLive (K. Lugovsky, S. Lugovsky)

RPP 2006 production

- Longer literature search period (12%)
- New editor interface
- Somewhat different computing environment (Linux vs Solaris)
- Major revision of neutrino sections
- Heavy revision of D-sections

RPP production tasks

- Literature search;
- Encodings:
 - Listings / Summary tables / Conservation Laws;
- Verifications;
- Reviews;
- Monitoring progress;
- Book production;
- Errata;

Literature search

The main browser window displays a search results page with the following entries:

found	unknown	new	WOHLSTAB	09/14/2005	
EPJ A23 523	BARU	05	DOSER	M999	
found	unknown	new	DOSER	10/04/2005	
EPJ A24 275	LAWALL	05	WOHLUNSTAB	B999	Miscellaneous \$
found	unknown	new	WORKMAN	09/14/2005	gamma p --> K0\$
EPJ A24 437	KALASHN				
found	u				
EPJ A25 107	BUGG				
found	u				
EPJ A25 263	LI				
found	u				
EPJ C38 1	ABDALLA				
found	u				
EPJ C39 253	ASSMAN				
found	u				
EPJ C40 317	ABBIEND				
found	u				
EPJ C40 343	AKOPDZ				
found	u				

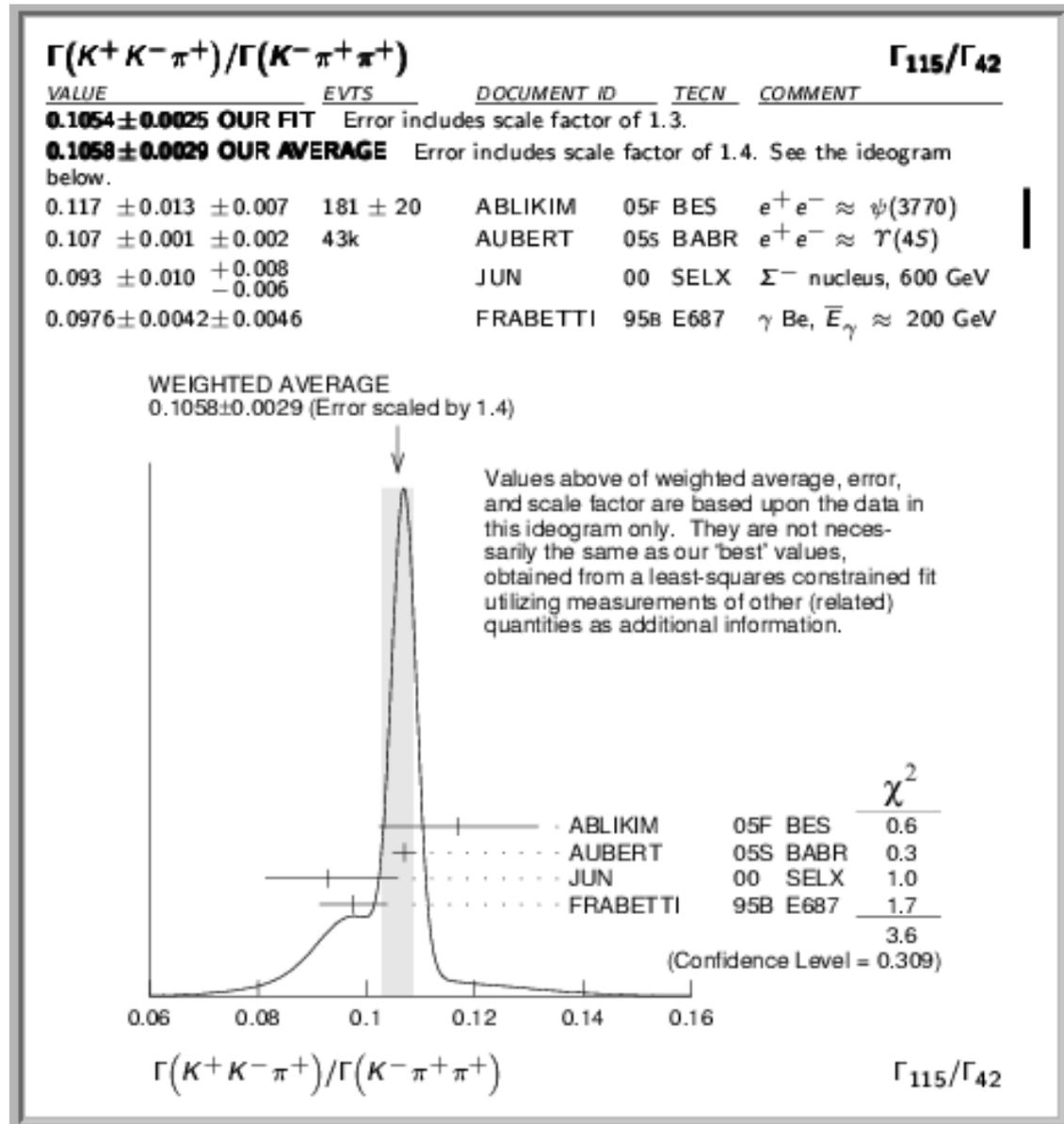
The overlaid browser window shows the full record for 'EPJ A24 275':

MEASUREMENT OF THE REACTION GAMMA P --> K0 SIGMA+ AT PHOTON ENERGIES UP TO 2.6-GEV.
R. Lawall *et al.*, Apr 2005. 15pp.
Published in **Eur.Phys.J.A24:275-286,2005**
e-Print Archive: **nucl-ex/0504014**

[References](#) | [LaTeX\(US\)](#) | [LaTeX\(EU\)](#) | [Harvmac](#) | [BibTeX](#) | [Keywords](#) | Cited [3 times](#)
[Abstract](#) and [Postscript](#) and [PDF](#) from arXiv.org (mirrors: [au](#) [br](#) [cn](#) [de](#) [es](#) [fr](#) [il](#) [in](#) [it](#) [jp](#) [kr](#) [ru](#) [tw](#) [uk](#) [za](#) [aps](#) [lanl](#))
[Journal Server](#)
[Euro.Phys.J.A Server](#)
[Reaction Data \(Durham\)](#)

Encodings

- All posted listings are updated with:
 - fits
 - averages
 - special case processing (fincom)
 - decays momenta
 - ideograms



Verifications

- Posted
- Email communications

Verifies, RPP 2006 edition

	Verifies	Papers
Barnett, Michael	verifies	papers
Beringer, Juerg	verifies	papers
Beringer, Juerg	top verifies	papers
Caso, Carlo / Gurtu, Atul	verifies	papers
Feng, Jonathan	verifies	papers
Groom, Don	verifies	papers
Kolda, Christopher	verifies	papers
Mangano, Michelangelo	verifies	papers
Miquel, Ramon	verifies	papers
Miquel, Ramon	verifies-extra	papers
Monig, Klaus	verifies	papers
Raffelt, Georg	verifies	papers
Terning, John	verifies	papers
Trippe, Tom	verifies	papers
Watari, Taizan	verifies	papers
Wohl, Charles	verifies	papers
Wohl, Charles	wohld	papers
Wohl, Charles	wohlstab	papers
Yao, Weiming	verifies	papers
Yao, Weiming	verifies-extra	papers
Doser, Michael	verifies	papers

Verifications

for the Review of Particle Physics

Send comments to Jonathan Feng: jlf@uci.edu

AKERIB

PR D73 011102R [AKERIB 06](#)

CDF

PR D69 052003 [ACOSTA 04H](#)

PR D71 012005 [ACOSTA 05N](#)

PR D71 031101R [ACOSTA 05D](#)

PRL 95 102002 [ACOSTA 05A](#)

D0

PL B617 1 [ABAZOV 05G](#)

PL B622 265 [ABAZOV 05P](#)

PL B626 35 [ABAZOV 05Q](#)

PL B626 55 [ABAZOV 05R](#)

PR D72 011104R [ABAZOV 05L](#)

EDELWEISS

PL B616 25 [BENOIT 05](#)

GIULIANI

PRL 95 101301 [GIULIANI 05](#)

PR D71 123503 [GIULIANI 05A](#)

Reviews production



Name/Further Explanation	tar file	Comments
Accelerator Physics of Colliders	accel.tar	July 07, 2005
Big-Bang Cosmology	bigbang.tar	July 08, 2005
Big-Bang Nucleosynthesis	bigbangnuc.tar	
CKM quark-mixing matrix	kmmix.tar	
Cosmic Microwave Back ground	microwave.tar	
Cosmic Rays	cosmicray.tar	
Cosmological Parameters, The	hubble.tar	
CP violation	cpviol.tar	
Cross-section formulae for specific processes	crosssec.tar	
Dark matter	dark mat.tar	
Electroweak model and constraints on new physics	stanmodel.tar	

MiniReview

Name/Further Explanation	tar file	Comments
a_1(1260)	a11260.tar	
Anomalous W/Z quartic couplings	anomaly.tar	
Axions	axions.tar	
b-flavored Hadrons, Production and I	bflavored.tar	
B0--B0bar Mixing	bbmix.tar	
Baryon Decay Parameters	bardecay.tar	
Baryon Magnetic Moments	magmom.tar	
Charged Kaon Mass	kmass.tar	
Charm Dalitz-Plot Analyses, Review of	charm_dalitz.tar	
Charmed Baryons	charmedbaryon.tar	
CPT Invariance Tests in Neutral Kaon Decay	cpt.tar	
CP Violation in K_L Decays	k0lcp.tar	
CP Violation in K_S --> 3pi	k0s3pi.tar	
D0--D0bar Mixing	dmix.tar	
Dalitz Plot Parameters for K --> 3pi Decays	dalitz.tar	
D_s+ Decay Constant	dsdecaycons.tar	
Dynamical Electroweak Symmetry Breaking (technicolor, etc.)	color.tar	
Electron, muon, and tau neutrino Listings	emutaneutrinos.tar	
eta(1405), eta(1475), f_1(1420), and f_1(1510)	eta1440.tar	

B0--B0bar Mixing

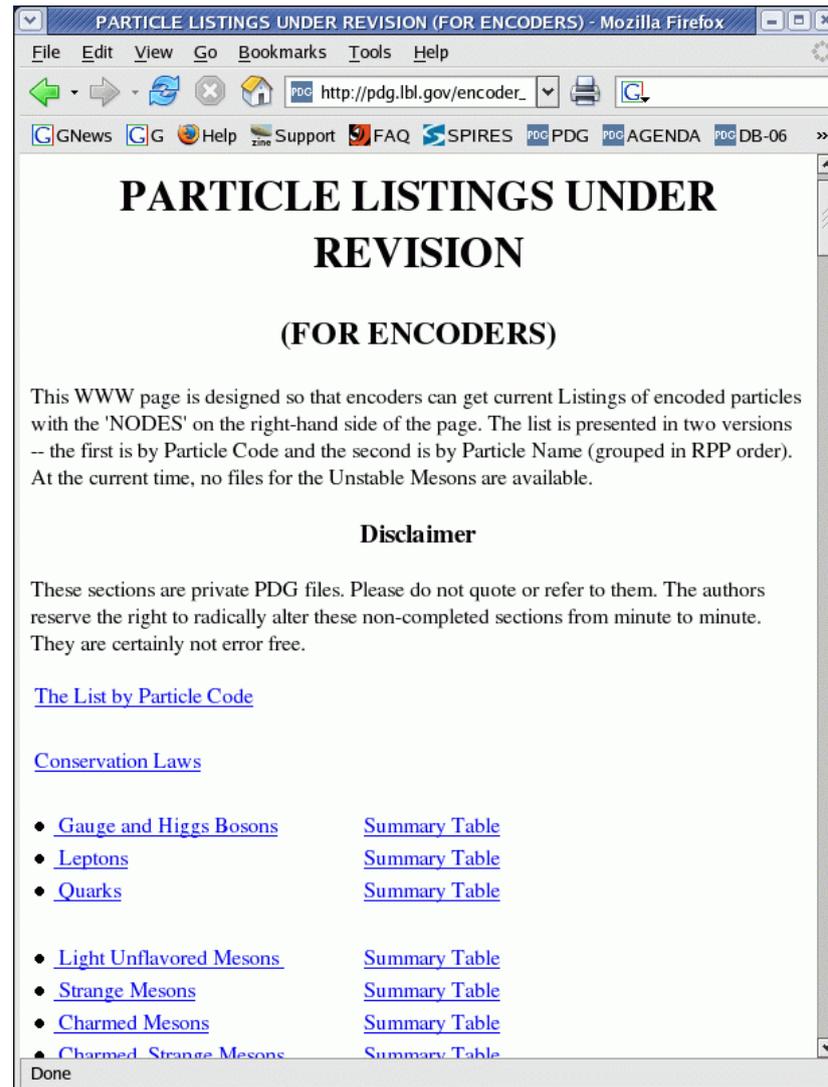
- Retrieve [bbmix.tar](#)
- tar -xvf bbmix.tar
- cd bbmix
- tex bbmix_s042224.tex; tex bbmix_s042224.tex
- dvips -t letter bbmix_s042224.dvi -o bbmix_s042224.ps
- Edit **bbmix_s042224.tex** to modify review content
- Figures, if any, are included in the figures/ directory
- mtexsis-rppmini.tex file contains TeXsis and RPP macros

Baryon Decay Parameters

- Retrieve [bardecay.tar](#)
- tar -xvf bardecay.tar

More attention to index

Summaries, Conservation Laws



PARTICLE LISTINGS UNDER REVISION (FOR ENCODERS) - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://pdg.lbl.gov/encoder_

GNews G Help zine Support FAQ SPIRES PDG PDG AGENDA PDG DB-06

PARTICLE LISTINGS UNDER REVISION

(FOR ENCODERS)

This WWW page is designed so that encoders can get current Listings of encoded particles with the 'NODES' on the right-hand side of the page. The list is presented in two versions -- the first is by Particle Code and the second is by Particle Name (grouped in RPP order). At the current time, no files for the Unstable Mesons are available.

Disclaimer

These sections are private PDG files. Please do not quote or refer to them. The authors reserve the right to radically alter these non-completed sections from minute to minute. They are certainly not error free.

[The List by Particle Code](#)

[Conservation Laws](#)

- [Gauge and Higgs Bosons](#) [Summary Table](#)
- [Leptons](#) [Summary Table](#)
- [Quarks](#) [Summary Table](#)

- [Light Unflavored Mesons](#) [Summary Table](#)
- [Strange Mesons](#) [Summary Table](#)
- [Charmed Mesons](#) [Summary Table](#)
- [Charmed Strange Mesons](#) [Summary Table](#)

Done

Errata

Errata for the 2006 Review of Particle Physics - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://pdg.lbl.gov/2006/html/errata_2006.html

GNews G Help Support FAQ SPIRES PDG AGENDA DB-06 JPG RPP-06 Seminars editor

Errata for the 2006 Review of Particle Physics

(Last changed September 15, 2006) :

During the time between editions of the **Review of Particle Physics** and the **Particle Physics Booklet**, we often find a number of errata. We correct most errata on our WWW pages. If you should find errata that are not known to us, please send mail to pdg@lbl.gov.

We present the following errata along with the corrected PostScript and PDF files:

- Page **32** of the full Review (page 11 of the DataBooklet, page 3 of the Web version below):
Gauge and Higgs Boson Summary Table [PS](#) [PDF](#)
 - (September 15, 2006):
 - The decay mode of Z to $B^+ X$ should have a value $(6.03 \pm 0.15)\%$.
 - The decay mode of Z to $B_s^0 X$ should have a value $(1.55 \pm 0.13)\%$.
- Page **56** of the full Review (page 88 of the DataBooklet, --- page 65 of the Web version below, page 14 of the Web version of Bottom Mesons only):
Meson Summary Table [PS](#) [PDF](#)
 - (September 6, 2006): The entries $|\lambda|$ ($B0 \rightarrow D^*+ D^{*-}$) and $\text{Im}(\lambda)$ ($B0 \rightarrow D^*+ D^{*-}$) should be named $C(D^*+ D^{*-})$ ($B0 \rightarrow D^*+ D^{*-}$) and $S(D^*+ D^{*-})$ ($B0 \rightarrow D^*+ D^{*-}$).
- Page **69** of the full Review (page 1 of the Web version below):
Meson Summary Table [PS](#) [PDF](#)
 - (August 31, 2006): The second entry named Upsilon(2S) in b-bbar section of the table should read Upsilon(1D).
- Page **70** of the full Review (page 1 of the Web version below):
Baryon Summary Table [PS](#) [PDF](#)
 - (August 31, 2006): The second entry named Sigma_c(2520) in the last column of the table should read Sigma_c(2800).
- Page **138** of the full Review (page 2 of the Web version below):
The CKM quark-mixing matrix [PS](#) [PDF](#)
 - (August 30, 2006): The last paragraph before section 11.2 had missing references to later sections.
- Page **258** of the full Review (page 237 of the DataBooklet, page 2 of the Web version below):
Passage of particles through matter [PS](#) [PDF](#)
 - (August 30, 2006): References range in the title of section 27.2 was corrected.

Done

PDG br_... macros

- br_ratio: 831 +-35 +-20, S041 1
- br_product
- br_rescale

Γ_{29}	cX	$(33 \pm 6 \mp 4)\%$	DESIG=389
Γ_{30}	$\bar{c}cX$	$(131 \pm 10 \mp 8)\%$	DESIG=390
$D, D^*,$ or D_s modes			
Γ_{31}	$\bar{D}^0 \pi^+$	$(4.92 \pm 0.20) \times 10^{-3}$	NODE=S041;CLUMP=B DESIG=1
Γ_{32}	$D_{CP(+)} \pi^+$	[b] $(4.0 \pm 0.8) \times 10^{-3}$	DESIG=314
Γ_{33}	$D_{CP(-)} \pi^+$	[b] $(3.6 \pm 0.8) \times 10^{-3}$	DESIG=315
Γ_{34}	$\bar{D}^0 \rho^+$	$(1.34 \pm 0.18)\%$	DESIG=25
Γ_{35}	$\bar{D}^0 K^+$	$(4.08 \pm 0.24) \times 10^{-4}$	DESIG=256

$\Gamma(\bar{D}^0 K^+)/\Gamma_{\text{total}}$				Γ_{35}/Γ	
VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT		ERROR=1;NODE=S041B31 NODE=S041B31
4.08 ± 0.24 OUR AVERAGE					
$4.09 \pm 0.20 \pm 0.17$	69 AUBERT	04N BABR	$e^+ e^- \rightarrow \Upsilon(4S)$		
$4.9 \pm 0.8 \mp 0.7 \pm 0.2$	70 BORNHEIM	03 CLE2	$e^+ e^- \rightarrow \Upsilon(4S)$		
$3.8 \pm 0.4 \pm 0.2$	71,72 SWAIN	03 BELL	$e^+ e^- \rightarrow \Upsilon(4S)$		
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$4.6 \pm 0.6 \pm 0.2$	71,73 ABE	03D BELL	Repl. by SWAIN 03		
$4.19 \pm 0.57 \pm 0.40$	74 ABE	01I BELL	Repl. by ABE 03D		SYCLP=A
$2.92 \pm 0.80 \pm 0.28$	75 ATHANAS	98 CLE2	Repl. by BORNHEIM 03		SYCLP=A
69 AUBERT 04N reports $[B(B^+ \rightarrow \bar{D}^0 K^+) / B(B^+ \rightarrow \bar{D}^0 \pi^+)] = (831 \pm 35 \pm 20) \times 10^{-4}$. We multiply by our best value $B(B^+ \rightarrow \bar{D}^0 \pi^+) = (4.92 \pm 0.20) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.					NODE=S041B31;LINKAGE=AU

Generalized to work with any measurement node,

e.g. S041B11, in addition to decay mode, e.g. S041 1

Improvements to production tasks

- Literature search: lists connected to SPIRES
- Encodings:
 - updated fits, averages
 - ideograms updated and included
- Verifications: online, email communications
- Reviews:
 - all posted as TeX self-contained tar files
- Book production:
 - summary tables, conservation laws online

Summary and Outlook

- 2006 production cycle was devoted to migration
from: Solaris / Oracle DB / Oracle forms
to: Linux / PostgreSQL / Web editor forms;
- Many tasks require laborious manual steps;
- Needed better arrangement of production environment;
- Streamline typical tasks;

Focus on changes that improve efficiency and reliability of operations though less visible to encoders / overseers / review authors.