Encoder Interface

PDG particle data group
Encoding System
Send feedback

Help
Vocabularies
View published database
View current database
Add / modify Paper
Meson Team Matrix
Editor Interface
e-mail to Editor

User: BERINGER
Editor status:
Change password
Sign Out

Primary selection: Show **My future tasks** for user **BERINGER**

Additionally filter tasks by: Status Ignore (exclude published) Contents Ignore Do not show tasks last modified before:
Role Ignore Particle Ignore JAN 1991

Status	Resp	Particle	Par.Code	Author	Year	Journal Number			Chg. date	Paper Summary
Encode	GRAB	η	S014	AKHMETSHI+	2005	PL	B605	26	2005-02-17	
Encode	GRAB	μ	S004	GAPONENKO	2005	PR	D71	071101R	2005-09-14	
Encode	GRAB	μ	S004	PREZEAU	2005	PRL	95	101802	2005-09-13	
Encode	GRAB	π^0	S009	PREZEAU	2005	PRL	95	101802	2005-09-13	
Encode	GRAB	e	S003	TZANAVARI+	2005	PRL	95	041301	2005-09-16	
Encode	GRAB	$\pi^\pm$	S008	YNDURAIN	2005	PL	B612	245	2005-11-16	

6 tasks shown

Version for printing

Old Way of Circulating Encodings

PDG ENCODING SHEET FOR MOST TYPES OF INPUT: (To print this form, see p. 228)

The first four lines printed below are templates for four types of input. REFERENCES ARE ALWAYS ENCODED FIRST.

```
REFERENCE —      DOCUMENT ID  PUBL. (+ORIG. SOVIET JOUR.)  TEMPORARY?  AUTHORS        COLLAB OR LABS  PARTICLE NODE&I^G J^PC
HEADER —         NODE         HEADER DESCRIPTION           (UNITS IF NECESSARY)     (TEXT, IF ANY)  GUIDE, (e.g., Γ design/Γ̄ design)
MEASUREMENT —    NODE   FN    VALUE±STAT.ERR.±SYST.ERR.    CL% EVENTS TECN CHRG     INLINE-COMMENT  USED/NOT USED/BEST
FOOTNOTE — "     NODE   FN    FOOTNOTE TEXT                ***(PLEASE INDICATE IF FOR PDG USE ONLY)***  PLACEMENT — D/S/P (se
```

Example of DOCUMENT ID: SMITH 88B — Example of NODE: S044R21 — FN is a letter linking measurements and footnotes (A, B, C,
$I^G J^{PC}$: Quantum numbers and associated particle first identified in this paper* — VERIFIER: leave blank if unknown

```
LINK 05I    PL B621 92    [Verifier: FOCUS]
J. M. LINK +    (FNAL FOCUS Collab.)
S031B52    0.0530±0.0074 +0.0079 -0.0096    ≈14K    FOCS    γ muons, Ē_γ ≈ 180 GeV
```

```
Reference:
==========
Document ID              Publication              Overseer
MUSSER  05               PRL 94 101805            BERINGER

Authors                                                  Colla
+J.R. Musser, Bayes,Davydov,Depommier et al              TWIST

Measurements:
-------------
Node       FN     Valuestatsyst       cl.  Evt   Tecn  Chrg
S004RHO    A  0.75080+-0.00032+-0.00100     6G   SPEC  +

Footnote A:  The quoted systematic error includes a contri
             (added in quadrature) from the dependence on the Michel parameter \eta.
```

Λ_c^+ MASS — NODE=S033205

~~Measurements with an error greater than 5 MeV or that are otherwise obsolete have been omitted.~~ — NODE=S033205

The fit also includes Σ_c–Λ_c^+ and Λ_c^{++}–Λ_c^+ mass-difference measurements, but this doesn't affect the Λ_c^+ mass. The new Λ_c^+ mass pushes all those other masses higher too.

NODE=S033M

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
2284.9±0.6 OUR FIT					
2284.9±0.6 OUR AVERAGE					
2284.7±0.6±0.7	1134	AVERY	91	CLEO	Six modes
2281.7±2.7±2.6	29	ALVAREZ	90B	NA14	$pK^-\pi^+$
2285.8±0.6±1.2	101	BARLAG	89	NA32	$pK^-\pi^+$
2284.7±2.3±0.5	5	AGUILAR-...	88B	LEBC	$pK^-\pi^+$
2283.1±1.7±2.0	628	ALBRECHT	88C	ARG	$pK^-\pi^+$, $p\bar{K}^0$, $\Lambda 3\pi$
2286.2±1.7±0.7	97	ANJOS	88B	E691	$pK^-\pi^+$
2281 ±3	2	JONES	87	HBC	$pK^-\pi^+$
2283 ±3	3	BOSETTI	82	HBC	$pK^-\pi^+$
2290 ±3	1	CALICCHIO	80	HYBR	$pK^-\pi^+$

all to "not used"

Λ_c^+ MEAN LIFE — NODE=S033210

Measurements with an error $\geq 100 \times 10^{-15}$ s or with fewer than 20 events have been omitted. — NODE=S033210

NODE=S033T

VALUE (10^{-15} s)	EVTS	DOCUMENT ID		TECN	COMMENT
200 ± 6 OUR AVERAGE Error includes scale factor of 1.6. See the ideogram below.					
204.6± 3.4± 2.5	8034	LINK	02C	FOCS	$pK^-\pi^+$
198.1± 7.0± 5.6	1630	KUSHNIR...	01	SELX	$\Lambda_c^+ \to pK^-\pi^+$
179.6± 6.9± 4.4	4749	MAHMOOD	01	CLE2	$e^+e^- \approx \Upsilon(4S)$
215 ±16 ± 8	1340	FRABETTI	93D	E687	γBe, $\Lambda_c^+ \to pK^-\pi^+$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
180 ±30 ±30	29	ALVAREZ	90	NA14	γ, $\Lambda_c^+ \to pK^-\pi^+$
200 ±30 ±30	90	FRABETTI	90	E687	γBe, $\Lambda_c^+ \to pK^-\pi^+$
196 $^{+23}_{-20}$	101	BARLAG	89	NA32	$pK^-\pi^+$ + c.c.
220 ±30 ±20	97	ANJOS	88B	E691	$pK^-\pi^+$ + c.c.

Our value in 2004, 2284.9 ± 0.6 MeV, was the average of the measurements now filed as "not used." The BABAR measurement is so much better that we use it alone. Note that it is about ~~2.6 standard~~ 2.6 (old) standard deviations above the 2004 value.

- All data put into database by editor, checked, new fits & averages, ...
- Eventually revised sections circulated back to encoders/overseers/verifiers

Goals for the Encoder Interface

- Encoders can enter (most) encodings entirely themselves
  - Task oriented system knows what pieces of information need to be entered and how to store them into the underlying database
  - Immediate feedback on how it will look in the Listings
  - Special cases will still be handled by editor
- Simplify process by managing flow of information between encoders/overseers/coordinators/editor and (eventually) verifiers
- Reduce mistakes (e.g. by ensuring encodings are really checked as foreseen)
- Avoid unnecessary delays by eliminating editor as “middle-man” in the communication process
  - Danger to forget something if work on a given encoding has to be postponed until the results come back from the editor
- Make precise reports about actual status of encoding possible
- Allow editor to concentrate on his main tasks

Challenges

- Capturing the complex workflow within the PDG collaboration not trivial
  - Many special cases - e.g. “meson team” uses a different encoding process
- Old data entry system requires large amount of expert knowledge
  - Need to know all the details how RPP content is represented in database
- Encoder interface will be used by non PDG database experts
  - User interface must be simple enough to be usable with very little training
  - Yet must be powerful enough to handle most situations
  - Data entry must be efficient (otherwise encoders won't use it)
  - Users deal with RPP contents: measurements, authors, footnotes, ...
    - System needs editor's expertise to convert this into representation at database level
- Must be extremely reliable (e.g. cannot loose any measurements)
- Concurrency (most data entry will occur near deadline)

Demonstration

- Will encode the following paper:

PRL 94, 101805 (2005) PHYSICAL REVIEW LETTERS week ending 18 MARCH 2005

Measurement of the Michel Parameter ρ in Muon Decay

J. R. Musser,[6] R. Bayes,[7,*] Yu. I. Davydov,[7,†] P. Depommier,[4] J. Doornbos,[7] W. Faszer,[7] C. A. Gagliardi,[6] A. Gaponenko,[1] D. R. Gill,[7] P. Green,[1] P. Gumplinger,[7] M. D. Hasinoff,[2] R. S. Henderson,[7] J. Hu,[7] B. Jamieson,[2] P. Kitching,[1] D. D. Koetke,[8] A. A. Krushinsky,[3] Yu. Yu. Lachin,[3] J. A. Macdonald,[7,‡] R. P. MacDonald,[1] G. M. Marshall,[7] E. L. Mathie,[5] L. V. Miasoedov,[3] R. E. Mischke,[7] P. M. Nord,[8] K. Olchanski,[7] A. Olin,[7,*] R. Openshaw,[7] T. A. Porcelli,[7,§] J.-M. Poutissou,[7] R. Poutissou,[7] M. A. Quraan,[1] N. L. Rodning,[1,‡] V. Selivanov,[3] G. Sheffer,[7] B. Shin,[7,‖] F. Sobratee,[1] T. D. S. Stanislaus,[8] R. Tacik,[5] V. D. Torokhov,[3] R. E. Tribble,[6] M. A. Vasiliev,[6] and D. H. Wright[7,¶]

(TWIST Collaboration)

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(Received 29 September 2004; published 18 March 2005)

The TWIST Collaboration has measured the Michel parameter ρ in normal muon decay, $\mu^+ \to e^+\nu_e\bar{\nu}_\mu$. In the standard model, $\rho = 3/4$. Deviations from this value imply mixing of left- and right-handed muon and electron couplings. We find $\rho = 0.750\,80 \pm 0.000\,32(\text{stat}) \pm 0.000\,97(\text{syst}) \pm 0.000\,23$, where the last uncertainty represents the dependence of ρ on the Michel parameter η. This result sets new limits on the $W_L - W_R$ mixing angle in left-right symmetric models.

DOI: 10.1103/PhysRevLett.94.101805 PACS numbers: 13.35.Bv, 12.60.Cn, 14.60.Ef

Encoding (Old Style)

```
##########################################################################################

Reference:
==========
Document ID              Publication              Overseer       Particle
MUSSER  05               PRL 94 101805            BERINGER       S004

Authors                                                Collab/Lab
+J.R. Musser, Bayes,Davydov,Depommier et al            TWIST

Measurements:
-------------
Node      FN     Valuestatsyst      cl.  Evt   Tecn  Chrg  Comment   --------|    Usage
S004RHO  A  0.75080+-0.00032+-0.00100     6G   SPEC  +     surface  mu+           used
                                                           at TRIUMF

Footnote A:  The quoted systematic error includes a contribution of 0.00023
             (added in quadrature) from the dependence on the Michel parameter \eta.

##########################################################################################
```

Summary

- Present status
  - Major features are present, beta testing in progress
    - Went to CERN in spring for testing with Michael Doser (head of meson team)
    - Several rounds of testing at LBNL (currently Ramon and Wei-Ming)
    - Claudia Patrignani (meson team) is coming to LBNL for a few days for testing
  - Need to complete interaction with auxiliary programs
  - Expect to input some real measurements for RPP 2006 (by select encoders)
- Restrictions in the present version (ie things that must be done by editor)
  - Cannot create arbitrary new nodes (can create new nodes for branching ratios)
  - Cannot add new particles
  - Cannot change which nodes are used in fits
  - Deliberately do not allow some operations (delete, certain changes to tree)