Memo CP-D/201

9 January 1990

To: Distribution

From: O. Schwerer

Subject: 1) Dictionary transmission
2) Legendre coefficients for double-differential data (Memo CP-M/11)

1) Dictionary transmission TRANS 9060 is being distributed including the updates approved at the 1989 NRDC Meeting, plus some additions which have come up later.

Some new headings proposed in CP-C/188 are not approved yet (see conclusion 59 in CP-D/200) and were not included.

2) We also did not yet include the last of the new codes proposed for dict. 36 in memo CP-M/11: ,DA/DE,,LEG/RDE.

We realize that this code was proposed in reply to our question (top of page 3 of memo CP-D/194) on a similar code proposed in CP-M/10. However, since RDE is a new modifier which must also be introduced in dictionary 34, and this is the first case in EXFOR of Legendre coefficients for double-differential data, we ask CDFE to provide the information in a way which can be used to update the LEXFOR page on 'Fitting coefficients'. This means giving a formula in 'normal' writing (as in LEXFOR, or in memo CP-D/194), and giving explicitly the dimension of the coefficients a_ℓ, plus other information useful for the compiler (e.g. whether or not the coefficients will normally be a function of the secondary energy).

Clearance: J.J. Schmidt

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To: Distribution

From: S. Webster

Subject: Update dictionaries 25 and 36

The following are proposals for inclusion in the EXFOR dictionaries 25 and 36; they occur in the transmission 2127 presently in preparation.

Dictionary 25

PC/FIS/MEV	Per-cent per fission per MeV (unit type FYDE)

Dictionary 36

,DA,LF,RSD	Angular distribution of light fission fragments relative to 90 deg. (unit type NO)
,DA/DE,,LEG	Double differential cross section Legendre coefficient of the form $d^2(sig)/d(angle)dE = sum (A(L)P(L))$ (unit type DAE)

INFORMATION
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Legendre Coefficients

Definition: Coefficients obtained by fitting a differential cross section using an equation containing a sum of Legendre polynomials.

REACTION Coding: LEG in SF8 plus a code indicating the exact representation used.

Representations:

DA,,LEG = A_l (unit type DA, *e.g.*, B/SR) where:

$$\frac{d\sigma}{d\Omega}(E,\theta) = a_0 + \sum_{l=1}^{n} a_l(E) P_l(\cos\theta)$$

DA,,LEG/RS = W_l (units NO-DIM) where:

$$\frac{d\sigma}{d\Omega}(E,\theta) = \frac{\sigma}{4\pi}\left[\, 1 + \sum_{l=1}^{n} W_l(E) P_l(\cos\theta)\right]$$

DA,,LEG/RSL = B_l (units NO-DIM) where:

$$\frac{d\sigma}{d\Omega}(E,\theta) = \frac{\sigma}{4\pi}\left[\, 1 + \sum_{l=1}^{n} (2l+1)\, B_l P_l(\cos\theta)\right]$$

DA,,LEG/2L2 = a_l (unit type DA, *e.g.*, B/SR) where:

$$\frac{d\sigma}{d\Omega}(E,\theta) = 1/2 + \sum_{l=0}^{n} (2l+1) a_l(E) P_l(\cos\theta)$$

DA,,LEG/L4P = a_l (unit type DA, *e.g.*, B/SR) where:

$$\frac{d\sigma}{d\Omega}(E,\theta) = \frac{1}{4\pi} \sum_{l=0}^{n} (2l+1) a_l(E) P_l(\cos\theta)$$

DA,,LEG/1K2 = a_l (units NO-DIM) where:

$$\frac{d\sigma}{d\Omega}(E,\theta) = \frac{1}{k^2} + \sum_{l=1}^{n} a_l(E) P_l(\cos\theta) \qquad k = \text{wave number}$$

DA/DE,, LEG =

$$\frac{d^2\sigma(E,E',\theta)}{dE'd\Omega} =$$

DA/DE,, LEG/RDE =

$$\frac{d^2\sigma(E,E',\theta)}{dE'd\Omega} =$$