WP2008-23

Tensor Polarization and Initial State Spin Correlation

(Action A25, 2007)

Naohiko Otsuka

This is the result of Action A25 (2007):

(Continuing) Submit summary on tensor polarization data as a memo to remove inconsistencies in dictionary expansions.

Checking and corrections according to the list of Memo CP-D/520 are requested to centres responsible to area 1, 2, C, E, O and T.

Nuclear Data Section
International Atomic Energy Agency
P.O .Box 100, A-1400 Vienna, Austria

Memo CP-D/520

Date: 11 September 2008
To: Distribution
From: N. Otsuka

Subject: Clarification of spin observables (2) - Action 27 of the last meeting
Reference: Memo CP-E/100

1. Background

Two quantities,

1. tensor analyzing power in Cartesian coordinate in $A(\vec{b},c)D$;
2. initial spin correlation in $\vec{A}(\vec{b},c)D$

had been coded by the same quantity code *ij*,POL/DA,,ANA (*i*, *j* =S, N or L) before the 2006 NRDC meeting. After the meeting, the modifier (SF8) were changed as follows (Conclusion 27 of the 2006 NRDC meeting):

Quantity	**Modifier**
Tensor analyzing power in Cartesian coordinate	ANA
Initial state spin correlation parameter	C

2. Correction of dictionary

This conclusion requires the following corrections of expansions:

Dictionary 236 (Quantities)

LL,POL/DA,,C	Initial spin correlation parameter, C(LL)
LS,POL/DA,,C	Initial spin correlation parameter, C(LS)
NN,POL/DA,,C	Initial spin correlation parameter, C(NN)
SL,POL/DA,,C	Initial spin correlation parameter, C(SL)
SS,POL/DA,,C	Initial spin correlation parameter, C(SS)
LL,POL/DA,,ANA	Tensor analyzing power, A(zz)
LL/PAR,POL/DA,,ANA	Partial tensor analyzing power, A(zz)
LS,POL/DA,,ANA	Tensor analyzing power, A(zx)
NL,POL/DA,,ANA	Tensor analyzing power, A(yz)
NN,POL/DA,,ANA	Tensor analyzing power, A(yy)
NN/PAR,POL/DA,,ANA	Partial tensor analyzing power, A(yy)
SL,POL/DA,,ANA	Tensor analyzing power, A(xz)
SL/PAR,POL/DA,,ANA	Partial tensor analyzing power, A(xz)
SS,POL/DA,,ANA	Tensor analyzing power, A(xx)

3. Request of corrections

I have checked all EXFOR entries which SF5 (branch) and SF8 (modifier) give rank 2 tensor indices (LL, NN, SS etc.) and ANA, respectively.

The result is summarized below. Subentries shown in italics should be corrected. "C" in the 3rd column means that ANA in SF8 should be replaced by C. Some other corrections are proposed in the 4th column. I cannot make decision for C0404, because this entry is compiled from a thesis.

Entries – (SF5, SF8) =(2nd rank tensor indices, ANA) Sept. 10, 2008

(*Original references should be checked by compilers before corrections.*)

Subentry	Reaction	SF8	Remarks
12772.002	(1-H-1(N,EL)1-H-1,NN,POL/DA,,ANA)	C	
12773.002	(1-H-1(N,EL)1-H-1,NN,POL/DA,,ANA)	C	
13540.002	(1-H-1(N,EL)1-H-1,NN,POL/DA,,ANA)	C	
21959.002	(1-H-1(N,EL)1-H-1,,POL/DA,,AYY)	C	SF5=NN
22133.002	(1-H-1(N,EL)1-H-1,,POL/DA,,AYY)	C	SF5=NN
22290.002	(1-H-1(N,EL)1-H-1,,POL/DA,,AYY)	C	SF5=NN
C0103.002	(1-H-1(P,EL)1-H-1,LL,POL/DA,,ANA)	C	
C0103.003	(1-H-1(P,EL)1-H-1,SL,POL/DA,,ANA)	C	
C0112.002.2	(1-H-2(D,G)2-HE-4,NN,POL/DA,,ANA)		
C0112.003.2	(1-H-2(D,G)2-HE-4,NN,POL/DA,,ANA)		
C0121.005	(2-HE-3(P,EL)2-HE-3,NN,POL/DA,,ANA)	C	
C0121.006.1	(2-HE-3(P,EL)2-HE-3,SL,POL/DA,,ANA)	C	
C0121.006.2	(2-HE-3(P,EL)2-HE-3,LS,POL/DA,,ANA)	C	
C0121.006.3	(2-HE-3(P,EL)2-HE-3,SS,POL/DA,,ANA)	C	
C0121.006.4	(2-HE-3(P,EL)2-HE-3,LL,POL/DA,,ANA)	C	
C0122.004.2	(1-H-2(D,G)2-HE-4,NN,POL/DA,,ANA)		
C0122.005.2	(1-H-2(D,G)2-HE-4,NN,POL/DA,,ANA)		
C0129.006.2	(3-LI-6(D,G)4-BE-8,NN,POL/DA,,ANA)		
C0129.007.2	(3-LI-6(D,G)4-BE-8,NN,POL/DA,,ANA)		
C0129.010.2	(3-LI-6(D,G)4-BE-8,NN,POL/DA,,ANA)		
C0138.002	(1-H-2(D,P)1-H-3,LL,POL/DA,,ANA)		
C0138.003	((1-H-2(D,P)1-H-3,SS,POL/DA,,ANA)- (1-H-2(D,P)1-H-3,NN,POL/DA,,ANA))		
C0138.004	(1-H-2(D,N)2-HE-3,LL,POL/DA,,ANA)		
C0138.005	((1-H-2(D,N)2-HE-3,SS,POL/DA,,ANA)- (1-H-2(D,N)2-HE-3,NN,POL/DA,,ANA))		
C0138.006	(1-H-2(D,P)1-H-3,NN,POL/DA,,ANA)		
C0138.007	((1-H-2(D,P)1-H-3,SS,POL/DA,,ANA)- (1-H-2(D,P)1-H-3,NN,POL/DA,,ANA))		
C0138.008	(1-H-2(D,N)2-HE-3,LL,POL/DA,,ANA)		
C0138.009	((1-H-2(D,N)2-HE-3,SS,POL/DA,,ANA)- (1-H-2(D,N)2-HE-3,NN,POL/DA,,ANA))		
C0429.002	(29-CU-63(D,HE3)28-NI-62,LL/PAR,POL/DA,,ANA)		
C0429.003.1	(41-NB-93(D,HE3)40-ZR-92,LL/PAR,POL/DA,,ANA)		
C0429.003.2	(41-NB-93(D,HE3)40-ZR-92,NN/PAR,POL/DA,,ANA)		
C0429.004	(39-Y-89(D,HE3)38-SR-88,LL/PAR,POL/DA,,ANA)		
C0453.006	(30-ZN-66(D,P)30-ZN-67,NN,POL/DA,,ANA)		
C0458.003.1	(1-H-1(P,EL)1-H-1,SS,POL/DA,,ANA)	C	
C0458.003.2	(1-H-1(P,EL)1-H-1,NN,POL/DA,,ANA)	C	
C0458.003.3	(1-H-1(P,EL)1-H-1,SL,POL/DA,,ANA)	C	

C0475.002	(2-HE-3(D,P)2-HE-4,LL,POL/DA,,ANA)		
C0475.003	(1-H-3(D,N)2-HE-4,LL,POL/DA,,ANA)		
C0490.004.1	(2-HE-3(D,EL)2-HE-3,LS,POL/DA,,ANA)	?	Thesis
C0490.004.2	(2-HE-3(D,EL)2-HE-3,LL,POL/DA,,ANA)	?	Thesis
C0549.003.2	(1-H-2(D,G)2-HE-4,NN,POL/DA,,ANA)		
C0566.002	(50-SN-119(D,T)50-SN-118,LL,POL/DA,,ANA)		
C0566.003	(62-SM-149(D,T)62-SM-148,LL,POL/DA,,ANA)		
C0566.004	(82-PB-206(D,T)82-PB-205,LL/PAR,POL/DA,,ANA)		
C0594.003.1	(2-HE-3(D,P)2-HE-4,NN,POL/DA,,ANA)		
C0594.003.2	(2-HE-3(D,P)2-HE-4,LL,POL/DA,,ANA)		
C0594.003.3	(2-HE-3(D,P)2-HE-4,SL,POL/DA,,ANA)		
C0598.003.1	(1-H-1(P,EL)1-H-1,SS,POL/DA,,ANA)	C	
C0598.003.2	(1-H-1(P,EL)1-H-1,NN,POL/DA,,ANA)	C	
C0598.003.3	(1-H-1(P,EL)1-H-1,SL,POL/DA,,ANA)	C	
C0606.005.1	(1-H-1(D,P)1-H-2,NN,POL/DA,,ANA)		SF3=EL, SF4=1-H-1, SF7=P
C0606.005.2	(1-H-1(D,P)1-H-2,SS,POL/DA,,ANA)		SF3=EL, SF4=1-H-1, SF7=P
C0606.005.3	(1-H-1(D,P)1-H-2,SL,POL/DA,,ANA)		SF3=EL, SF4=1-H-1, SF7=P
C0606.005.4	(1-H-1(D,P)1-H-2,LL,POL/DA,,ANA)		SF3=EL, SF4=1-H-1, SF7=P
C0607.003.1	(20-CA-0(3-LI-6,D)22-TI-44,LL/PAR,POL/DA,,ANA)		
C0607.003.2	(20-CA-0(3-LI-6,D)22-TI-44,SL/PAR,POL/DA,,ANA)		
C0607.006.1	(28-NI-58(3-LI-6,D)30-ZN-62,LL/PAR,POL/DA,,ANA)		
C0607.006.2	(28-NI-58(3-LI-6,D)30-ZN-62,SL/PAR,POL/DA,,ANA)		
C0621.004	(1-H-2(D,G)2-HE-4,NN,POL/DA,,ANA)		
C0625.004	(1-H-1(D,G)2-HE-3,NN,POL/DA,,ANA)		
C0664.002	(1-H-1(P,EL)1-H-1,LL,POL/DA,,ANA)	C	
C0667.003	(1-H-1(P,EL)1-H-1,NN,POL/DA,,ANA)	C	
C0668.003	(1-H-1(P,EL)1-H-1,NN,POL/DA,,ANA)	C	
C0675.002	(1-H-1(P,EL)1-H-1,NN,POL/DA,,ANA)	C	
C0677.003	(6-C-13(P,EL)6-C-13,NN,POL/DA,,ANA)	C	
C0776.003.2	(50-SN-116(D,EL)50-SN-116,NN,POL/DA,,ANA)		
C0776.005.2	(50-SN-116(D,P)50-SN-117,NN/PAR,POL/DA,,ANA)		
C0777.003.2	(50-SN-116(D,P)50-SN-117,NN/PAR,POL/DA,,ANA)		
C0778.003.2	(28-NI-58(D,EL)28-NI-58,NN,POL/DA,,ANA)		
C0778.004	(28-NI-58(D,EL)28-NI-58,SS,POL/DA,,ANA/MSC)		
C0786.005	(1-H-2(P,EL)1-H-2,SL,POL/DA,,ANA)	C	
C0786.006	(1-H-2(P,EL)1-H-2,LL,POL/DA,,ANA)	C	
C0786.007	(1-H-2(P,EL)1-H-2,NL,POL/DA,,ANA)	C	
C0801.009	(1-H-2(P,EL)1-H-2,NN,POL/DA,,ANA)		SF1= SF4=1-H-1, SF2=D, SF3=EL
C0801.010	(1-H-2(P,EL)1-H-2,NN,POL/DA,,ANA)		SF1= SF4=1-H-1, SF2=D, SF3=EL
C0803.004	(1-H-2(P,EL)1-H-2,NN,POL/DA,,ANA)	C	
C0892.002.2	(1-H-2(D,N+P)1-H-2,NN,POL/DA/DA/DE,N/D/N+D,ANA/AV)		

C0892.002.3	(1-H-2(D,N+P)1-H-2,LL,POL/DA/DA/DE,N/D/N+D,ANA/AV)		
C0892.003.2	(1-H-2(D,N+P)1-H-2,NN,POL/DA/DA/DE,P/D/P+D,ANA/AV)		
C0892.003.3	(1-H-2(D,N+P)1-H-2,LL,POL/DA/DA/DE,P/D/P+D,ANA/AV)		
C0892.004.2	(1-H-2(D,N+P)1-H-2,NN,POL/DA/DA/DE,N/P/N+P,ANA/AV)		
C0892.004.3	(1-H-2(D,N+P)1-H-2,LL,POL/DA/DA/DE,N/P/N+P,ANA/AV)		
C0948.003.1	(1-H-1(P,EL)1-H-1,SS,POL/DA,,ANA)	C	
C0948.003.2	(1-H-1(P,EL)1-H-1,NN,POL/DA,,ANA)	C	
C0948.003.3	(1-H-1(P,EL)1-H-1,SL,POL/DA,,ANA)	C	
C0978.002	(2-HE-3(D,P)2-HE-4,NN,POL/DA,,ANA)		
C1416.004	(30-ZN-64(D,3-LI-6)28-NI-60,LL/PAR,POL/DA,,ANA)		
C1416.005	(30-ZN-64(D,3-LI-6)28-NI-60,NN/PAR,POL/DA,,ANA)		
C1428.003	(50-SN-119(D,T)50-SN-118,NN,POL/DA,,ANA)		
C1428.005	(42-MO-95(D,T)42-MO-94,NN,POL/DA,,ANA)		
C1428.006	(42-MO-95(D,T)42-MO-94,LL,POL/DA,,ANA)		
C1428.008	(62-SM-149(D,T)62-SM-148,NN,POL/DA,,ANA)		
C1428.009	(62-SM-149(D,T)62-SM-148,LL,POL/DA,,ANA)		
C1429.002	(2-HE-3(D,P)2-HE-4,NN,POL/DA,,ANA)		
C1429.003	(2-HE-3(D,P)2-HE-4,LL,POL/DA,,ANA)		
C1429.004	(2-HE-3(D,P)2-HE-4,NN,POL/DA,,ANA)		
C1429.005	(2-HE-3(D,P)2-HE-4,LL,POL/DA,,ANA)		
C1524.004	((1-H-2(P,EL)1-H-2,LL,POL/DA,,ANA)- (1-H-2(P,EL)1-H-2,NN,POL/DA,,ANA))		SF8= ANA/MSC
C1524.005	(1-H-2(P,EL)1-H-2,LL,POL/DA,,ANA)		SN8= ANA/MSC
C1524.006	(1-H-2(P,EL)1-H-2,LS,POL/DA,,ANA)		SF5=SL SF8= ANA/MSC
D0240.004	(28-NI-58(D,EL)28-NI-58,NN,POL/DA,,ANA)		
D0240.007	(20-CA-40(D,EL)20-CA-40,NN,POL/DA,,ANA)		
E0682.004	(8- -16(D,EL)8- -16,NN,POL/DA,,ANA)		
E0682.011	(14-SI-28(D,EL)14-SI-28,NN,POL/DA,,ANA)		
E0682.012	(14-SI-28(D,EL)14-SI-28,SS,POL/DA,,ANA)		
E0682.016	(16-S-32(D,EL)16-S-32,NN,POL/DA,,ANA)		
E0682.020	(18-AR-40(D,EL)18-AR-40,NN,POL/DA,,ANA)		
E0682.024	(20-CA-40(D,EL)20-CA-40,NN,POL/DA,,ANA)		
E0682.028	(20-CA-44(D,EL)20-CA-44,NN,POL/DA,,ANA)		
E0682.032	(26-FE-54(D,EL)26-FE-54,NN,POL/DA,,ANA)		
E0682.036	(28-NI-58(D,EL)28-NI-58,NN,POL/DA,,ANA)		
E0682.040	(28-NI-60(D,EL)28-NI-60,NN,POL/DA,,ANA)		
E0682.044	(28-NI-64(D,EL)28-NI-64,NN,POL/DA,,ANA)		
E0682.045	(28-NI-64(D,EL)28-NI-64,SS,POL/DA,,ANA)		
E0682.049	(40-ZR-90(D,EL)40-ZR-90,NN,POL/DA,,ANA)		
E0682.053	(50-SN-118(D,EL)50-SN-118,NN,POL/DA,,ANA)		
E0682.057	(82-PB-208(D,EL)82-PB-208,NN,POL/DA,,ANA)		
E0783.002	(1-H-1(D,EL)1-H-1,SL,POL/DA,,ANA)		
E0816.008	(28-NI-58(D,X)1-H-1,SS,POL/DA/DE,,ANA)		
E0816.009	(28-NI-58(D,X)1-H-1,SS,POL/DA/DE,,ANA)		
E0816.010	(28-NI-58(D,X)1-H-1,SS,POL/DA/DE,,ANA)		
E0816.011	(28-NI-58(D,X)1-H-1,SS,POL/DA/DE,,ANA)		
E0816.012	(28-NI-58(D,X)1-H-1,SS,POL/DA/DE,,ANA)		
E0816.013	(28-NI-58(D,X)1-H-1,SS,POL/DA/DE,,ANA)		
E0816.014	(28-NI-58(D,X)1-H-1,NN,POL/DA/DE,,ANA)		
E0816.015	(28-NI-58(D,X)1-H-1,NN,POL/DA/DE,,ANA)		

E0816.016	(28-NI-58(D,X)1-H-1,NN,POL/DA/DE,,ANA)		
E0816.017	(28-NI-58(D,X)1-H-1,NN,POL/DA/DE,,ANA)		
E0816.018	(28-NI-58(D,X)1-H-1,NN,POL/DA/DE,,ANA)		
E0816.019	(28-NI-58(D,X)1-H-1,NN,POL/DA/DE,,ANA)		
E0816.026	(40-ZR-90(D,X)1-H-1,SS,POL/DA/DE,,ANA)		
E0816.027	(40-ZR-90(D,X)1-H-1,SS,POL/DA/DE,,ANA)		
E0816.028	(40-ZR-90(D,X)1-H-1,SS,POL/DA/DE,,ANA)		
E0816.029	(40-ZR-90(D,X)1-H-1,SS,POL/DA/DE,,ANA)		
E0816.030	(40-ZR-90(D,X)1-H-1,SS,POL/DA/DE,,ANA)		
E0816.031	(40-ZR-90(D,X)1-H-1,SS,POL/DA/DE,,ANA)		
E0816.032	(40-ZR-90(D,X)1-H-1,NN,POL/DA/DE,,ANA)		
E0816.033	(40-ZR-90(D,X)1-H-1,NN,POL/DA/DE,,ANA)		
E0816.034	(40-ZR-90(D,X)1-H-1,NN,POL/DA/DE,,ANA)		
E0816.035	(40-ZR-90(D,X)1-H-1,NN,POL/DA/DE,,ANA)		
E0816.036	(40-ZR-90(D,X)1-H-1,NN,POL/DA/DE,,ANA)		
E0816.037	(40-ZR-90(D,X)1-H-1,NN,POL/DA/DE,,ANA)		
E0839.004	(1-H-1(D,EL)1-H-1,SS,POL/DA,,ANA)		
E0839.005	(1-H-1(D,EL)1-H-1,NN,POL/DA,,ANA)		
E0839.006	(1-H-1(D,EL)1-H-1,SL,POL/DA,,ANA)		
E0930.004	(2-HE-4(D,EL)2-HE-4,SS,POL/DA,,ANA)		
E0930.005	(2-HE-4(D,EL)2-HE-4,NN,POL/DA,,ANA)		
E0930.006	(2-HE-4(D,EL)2-HE-4,SL,POL/DA,,ANA)		
E0934.004	(6-C-12(D,EL)6-C-12,SS,POL/DA,,ANA)		
E0934.005	(6-C-12(D,EL)6-C-12,NN,POL/DA,,ANA)		
E0934.008	(6-C-12(D,EL)6-C-12,SS,POL/DA,,ANA)		
E0934.009	(6-C-12(D,EL)6-C-12,NN,POL/DA,,ANA)		
E0934.012	(6-C-12(D,EL)6-C-12,SS,POL/DA,,ANA)		
E0934.013	(6-C-12(D,EL)6-C-12,NN,POL/DA,,ANA)		
E0934.016	(6-C-12(D,EL)6-C-12,SS,POL/DA,,ANA)		
E0934.017	(6-C-12(D,EL)6-C-12,NN,POL/DA,,ANA)		
E0934.018	(6-C-12(D,EL)6-C-12,SL,POL/DA,,ANA)		
E0934.021	(6-C-12(D,EL)6-C-12,SS,POL/DA,,ANA)		
E0934.022	(6-C-12(D,EL)6-C-12,NN,POL/DA,,ANA)		
E0934.025	(6-C-12(D,EL)6-C-12,SS,POL/DA,,ANA)		
E0934.026	(6-C-12(D,EL)6-C-12,NN,POL/DA,,ANA)		
E0934.027	(6-C-12(D,EL)6-C-12,SL,POL/DA,,ANA)		
E0934.030	(6-C-12(D,EL)6-C-12,NN,POL/DA,,ANA)		
E0934.033	(6-C-12(D,EL)6-C-12,NN,POL/DA,,ANA)		
E1194.018	(6-C-12(D,EL)6-C-12,NN,POL/DA,,ANA)		
E1194.019	(8-O-16(D,EL)8-O-16,NN,POL/DA,,ANA)		
E1194.020	(20-CA-40(D,EL)20-CA-40,NN,POL/DA,,ANA)		
E1194.021	(28-NI-58(D,EL)28-NI-58,NN,POL/DA,,ANA)		
E1194.022	(40-ZR-90(D,EL)40-ZR-90,NN,POL/DA,,ANA)		
E1194.023	(50-SN-118(D,EL)50-SN-118,NN,POL/DA,,ANA)		
E1194.024	(62-SM-144(D,EL)62-SM-144,NN,POL/DA,,ANA)		
E1194.025	(82-PB-208(D,EL)82-PB-208,NN,POL/DA,,ANA)		
E1194.026	(6-C-12(D,EL)6-C-12,SS,POL/DA,,ANA)		
E1194.027	(8-O-16(D,EL)8-O-16,SS,POL/DA,,ANA)		
E1194.028	(20-CA-40(D,EL)20-CA-40,SS,POL/DA,,ANA)		
E1194.029	(28-NI-58(D,EL)28-NI-58,SS,POL/DA,,ANA)		
E1194.030	(40-ZR-90(D,EL)40-ZR-90,SS,POL/DA,,ANA)		
E1194.031	(50-SN-118(D,EL)50-SN-118,SS,POL/DA,,ANA)		

E1194.032	(62-SM-144(D,EL)62-SM-144,SS,POL/DA,,ANA)		
E1194.033	(82-PB-208(D,EL)82-PB-208,SS,POL/DA,,ANA)		
E1194.034	(6-C-12(D,EL)6-C-12,SL,POL/DA,,ANA)		
E1194.035	(8-O-16(D,EL)8-O-16,SL,POL/DA,,ANA)		
E1194.036	(20-CA-40(D,EL)20-CA-40,SL,POL/DA,,ANA)		
E1194.037	(28-NI-58(D,EL)28-NI-58,SL,POL/DA,,ANA)		
E1194.038	(40-ZR-90(D,EL)40-ZR-90,SL,POL/DA,,ANA)		
E1194.039	(50-SN-118(D,EL)50-SN-118,SL,POL/DA,,ANA)		
E1194.040	(62-SM-144(D,EL)62-SM-144,SL,POL/DA,,ANA)		
E1194.041	(82-PB-208(D,EL)82-PB-208,SL,POL/DA,,ANA)		
E1367.050	(40-ZR-90(D,T)40-ZR-89,NN/PAR,POL/DA,,ANA)		
E1367.051	(40-ZR-90(D,T)40-ZR-89,NN/PAR,POL/DA,,ANA)		
E1367.052	(40-ZR-90(D,T)40-ZR-89,NN/PAR,POL/DA,,ANA)		
E1473.010	(5-B-11(D,HE2)4-BE-11,NN/PAR,POL/DA,,ANA)		
E1473.011	(5-B-11(D,HE2)4-BE-11,NN/PAR,POL/DA,,ANA)		
E1473.012	(5-B-11(D,HE2)4-BE-11,NN/PAR,POL/DA,,ANA)		
E1473.013	(5-B-11(D,HE2)4-BE-11,NN/PAR,POL/DA,,ANA)		
E1578.003	(6-C-12(D,HE2)5-B-12,NN/PAR,POL/DA,,ANA)		
E1578.005	(6-C-12(D,HE2)5-B-12,NN/PAR,POL/DA,,ANA)		
E1578.006	(6-C-12(D,HE2)5-B-12,NN/PAR,POL/DA,,ANA)		
E1627.003	(1-H-1(D,EL)1-H-1,NN,POL/DA,,ANA)		
E1627.004	(1-H-1(D,EL)1-H-1,SS,POL/DA,,ANA)		
E1627.005	(1-H-1(D,EL)1-H-1,SS,POL/DA,,ANA)		
E1708.004	(20-CA-40(D,EL)20-CA-40,NN,POL/DA,,ANA)		
E1708.005	(20-CA-40(D,EL)20-CA-40,SS,POL/DA,,ANA)		
E1708.006	(20-CA-40(D,EL)20-CA-40,SL,POL/DA,,ANA)		
E1723.004	(1-H-2(P,EL)1-H-2,SS,POL/DA,,ANA)		SF1= SF4=1-H-1, SF2=D, SF3=EL
E1723.005	(1-H-2(P,EL)1-H-2,NN,POL/DA,,ANA)		SF1= SF4=1-H-1, SF2=D
E1723.006	(1-H-2(P,EL)1-H-2,SL,POL/DA,,ANA)		SF1= SF4=1-H-1, SF2=D
E1726.002	(2-HE-3(D,P)2-HE-4,NN,POL/DA,,ANA)		
E1726.003	(2-HE-3(D,P)2-HE-4,SS,POL/DA,,ANA)		
E1772.006	(1-H-1(D,EL)1-H-1,NN,POL/DA,,ANA)		
E1772.007	(1-H-1(D,EL)1-H-1,SS,POL/DA,,ANA)		
E1772.008	(1-H-1(D,EL)1-H-1,SL,POL/DA,,ANA)		
E1772.010	(1-H-1(D,EL)1-H-1,NN,POL/DA,,ANA)		
E1772.011	(1-H-1(D,EL)1-H-1,SS,POL/DA,,ANA)		
E1772.012	(1-H-1(D,EL)1-H-1,SL,POL/DA,,ANA)		
E1772.014	(1-H-1(D,EL)1-H-1,NN,POL/DA,,ANA)		
E1772.015	(1-H-1(D,EL)1-H-1,SS,POL/DA,,ANA)		
E1772.016	(1-H-1(D,EL)1-H-1,SL,POL/DA,,ANA)		
E1772.018	(1-H-1(D,EL)1-H-1,NN,POL/DA,,ANA)		
E1772.019	(1-H-1(D,EL)1-H-1,SS,POL/DA,,ANA)		
E1772.020	(1-H-1(D,EL)1-H-1,SL,POL/DA,,ANA)		
E1772.022	(1-H-1(D,EL)1-H-1,NN,POL/DA,,ANA)		
E1772.023	(1-H-1(D,EL)1-H-1,SS,POL/DA,,ANA)		
E1772.024	(1-H-1(D,EL)1-H-1,SL,POL/DA,,ANA)		
E1804.004	(6-C-12(D,HE2)5-B-12,NN/PAR,POL/DA,,ANA/MSC)		SF5=LL,

			SF6= POL/DA/DE
E1804.005	(6-C-12(D,HE2)5-B-12,NN/PAR,POL/DA,,ANA)		SF5=LL, SF6= POL/DA/DE
E1804.006	(6-C-12(D,HE2)5-B-12,NN/PAR,POL/DA,,ANA)		SF5=LL, SF6= POL/DA/DE
E1804.007	(6-C-12(D,HE2)5-B-12,NN/PAR,POL/DA,,ANA)		SF5=LL, SF6= POL/DA/DE
E1804.008	(6-C-12(D,HE2)5-B-12,NN/PAR,POL/DA,,ANA)		SF5=LL, SF6= POL/DA/DE
E1817.008	(6-C-12(D,INL)6-C-12,NN/PAR,POL/DA,,ANA)		
E1817.010	(6-C-12(D,INL)6-C-12,NN/PAR,POL/DA,,ANA)		
E1817.012	(6-C-12(D,INL)6-C-12,NN/PAR,POL/DA,,ANA)		
E1817.014	(6-C-12(D,INL)6-C-12,NN/PAR,POL/DA,,ANA)		
E1817.016	(6-C-12(D,EL)6-C-12,NN,POL/DA,,ANA)		
E1907.008	(1-H-1(D,EL)1-H-1,NN,POL/DA,,ANA)		
E1907.009	(1-H-1(D,EL)1-H-1,SS,POL/DA,,ANA)		
E1907.010	(1-H-1(D,EL)1-H-1,SL,POL/DA,,ANA)		
E1907.012	(1-H-1(D,EL)1-H-1,NN,POL/DA,,ANA)		
E1907.013	(1-H-1(D,EL)1-H-1,SS,POL/DA,,ANA)		
E1907.014	(1-H-1(D,EL)1-H-1,SL,POL/DA,,ANA)		
E1912.019	(6-C-12(D,EL)6-C-12,NN,POL/DA,,ANA)		
E1912.022	(5-B-11(D,EL)5-B-11,NN,POL/DA,,ANA)		
E2008.003	(1-H-1(D,EL)1-H-1,NN,POL/DA,,ANA)		
E2008.004	(1-H-1(D,EL)1-H-1,SS,POL/DA,,ANA)		
E2008.005	(1-H-1(D,EL)1-H-1,SL,POL/DA,,ANA)		
E2008.007	(1-H-1(D,EL)1-H-1,NN,POL/DA,,ANA)		
E2008.008	(1-H-1(D,EL)1-H-1,SS,POL/DA,,ANA)		
E2008.009	(1-H-1(D,EL)1-H-1,SL,POL/DA,,ANA)		
E2049.003	(1-H-2(D,N)2-HE-3,NN,POL/DA,,ANA)		
E2049.004	(1-H-2(D,N)2-HE-3,SS,POL/DA,,ANA)		
E2049.005	(1-H-2(D,N)2-HE-3,SL,POL/DA,,ANA)		
E2077.004	(1-H-1(D,G)2-HE-3,NN,POL/DA,,ANA)		
E2077.005	(1-H-1(D,G)2-HE-3,SS,POL/DA,,ANA)		
E2077.006	(1-H-1(D,G)2-HE-3,LL,POL/DA,,ANA,DERIV)		
E2078.002	(1-H-1(D,G)2-HE-3,SS,POL/DA,,ANA)		
E2078.003	(1-H-1(D,G)2-HE-3,NN,POL/DA,,ANA)		
E2078.004	(1-H-1(D,G)2-HE-3,LL,POL/DA,,ANA)		
F0074.003	(2-HE-4(D,T)2-HE-3,NN,POL/DA,,ANA)		
F0074.004	(2-HE-4(D,T)2-HE-3,SS,POL/DA,,ANA)		
F0074.005	(2-HE-4(D,T)2-HE-3,SL,POL/DA,,ANA)		
F0850.004	(8-O-16(D,EL)8-O-16,NN,POL/DA,,ANA)		
O0797.002	(1-H-1(D,G)2-HE-3,NN,POL/DA,,ANA)		
O1321.004	(50-SN-120(D,T)50-SN-119,NN/PAR,POL/DA,,ANA)		SF5=NN, SF6= POL/DA/DE
O1321.007	(50-SN-116(D,T)50-SN-115,NN/PAR,POL/DA,,ANA)		SF5=NN, SF6= POL/DA/DE
O1370.003	(1-H-1(D,G)2-HE-3,NN,POL/DA,,ANA)		
O1380.002	(2-HE-4(D,EL)2-HE-4,NN,POL/DA,,ANA)		
T0042.003	(1-H-3(D,G)2-HE-5,,POL/DA,,AYY)		SF5=NN,

			SF8=ANA

Appendix

For polarized spin 1 incident beam b (p_y and p_{ij}) and unpolarized target A, vector and tensor analyzing powers in Cartesian coordinate A_y and A_{ij} are

$$\sigma = \sigma_0 (1 + \frac{3}{2} p_y A_y + \frac{2}{3} p_{xz} A_{xz} + \frac{1}{3} p_{xx} A_{xx} + \frac{1}{3} p_{yy} A_{yy} + \frac{1}{3} p_{zz} A_{zz})$$

, and for polarized spin 1/2 incident beam b (p^b_i) and polarized spin 1/2 target A (p^T_i), vector analyzing powers for beam A^b_y, vector analyzing power for target A^T_y and initial state spin correlation $C_{i,j}$ are

$$\sigma = \sigma_0 (1 + p^b_y A^b_y + p^T_y A^T_y + p^b_x p^T_x C_{x,x} + p^b_z p^T_x C_{z,x} + p^b_y p^T_y C_{y,y} + p^b_z p^T_z C_{z,z} + p^b_x p^T_z C_{x,z}) \quad ,$$

where σ and σ_0 are cross sections for polarized and unpolarized beam/target cases [1].

Note that we do not have quantity codes for analyzing powers for target (C1524.004-006).

Reference

[1] G. G. Ohlsen, Rep. Prog. Phys.**35**(1972)717 (Chapter 4.4 and 6.2).

(End of CP-D/520)