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Memo CP-E/064 (Revised)

Date: February 10, 2005
To: Distribution
From: OTSUKA Naohiko
Subject: Indices of polarization quantities in Dictionary 31
Reference: CP-C/353 Rev.

CP-C/353 proposes a branch code NL with expansion “Incident particle spin normal to scattering plane target spin parallel to scattering plane”. We can find similar expansions for the indices of polarization quantities in Dictionary 31. However these expansions are too strong. Please consider the following four quantities which refer sideward and longitudinal component of spins:

Quantity code	Expansion	S refers	L refers
SL, POL/DA, , ANA	Spin correlation parameter, A_{SL}	SF2	SF1
SL, POL/DA, , C	Spin correlation parameter, C_{SL}	SF3	SF4
SL, POL/DA, , D	Spin rotation parameter, D_{SL}	SF2	SF3
SL, POL/DA, , K	Spin-transfer parameter, K_{SL}	SF2	SF4

Now SL is expanded as “*Beam* spin perpendicular, *target* spin parallel to *beam* direction in scattering plane” in Dictionary 31. This expansion is incorrect when SF7=C, D, or K.

Therefore we need corrections for LL, LS, NN, SL, SS.

Three branch codes AXX, AYY and AZZ should be obsolete (now they are replaced by SS, NN and LL, respectively).

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