Appendix 9

'Shorthand' notation and nomenclature
for the Argonne Lab reaction parameters

We consider $A + B \rightarrow A + B$, all particles having spin 1/2. The order is

$$\text{(beam, target|scattered, recoil)}.$$

Since *all* the parameters listed are the Argonne Lab ones we shall not keep repeating those labels.

Argonne Lab parameters $(\alpha\beta\|\alpha'\beta')^{\text{ARG}}_{\text{Lab}}$	Shorthand notation	Name
$(N0\|00)$	$A^{(A)}$	Analyzing power for particle A
$(0N\|00)$	$A^{(B)}$	Analyzing power for particle B
$(00\|N0)$	$P^{(A)}$	Polarizing power for particle A
$(00\|0N)$	$P^{(B)}$	Polarizing power for particle B
$(00\|\alpha'\beta')$	$C_{\alpha'\beta'}$	Final state correlation parameters
$(\alpha\beta\|00)$	$A_{\alpha\beta}$	Initial state correlation parameters
$(\alpha0\|\alpha'0)$	$D^{(A)}_{\alpha\alpha'}$	Depolarization parameters for A
$(0\beta\|0\beta')$	$D^{(B)}_{\beta\beta'}$	Depolarization parameters for B
$(\alpha0\|0\beta')$	$K^{(A)}_{\alpha\beta'}$	Polarization transfer parameters for A
$(0\beta\|\alpha'0)$	$K^{(B)}_{\beta\alpha'}$	Polarization transfer parameters for B

It has been agreed (Ann Arbor Convention 1977; see Krisch, 1978) that no special names shall be given to the three-and four-spin parameters.

It should be noted that in the days when very few spin measurements seemed feasible, certain of the above parameters were given specific, but not very systematic, symbols. These are no longer appropriate, but to

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facilitate comparison with the older literature we list the most important:

$$D = D_{NN}; \qquad R = D_{SS}^{(A)}; \qquad \bar{R} = D_{SS}^{(B)};$$

$$A = D_{LS}^{(A)}; \qquad \bar{A} = D_{LS}^{(B)}; \qquad R' = D_{SL}^{(A)}; \qquad \bar{R}' = -D_{SL}^{(B)};$$

$$A' = D_{LL}^{(A)}; \qquad \bar{A}' = -D_{LL}^{(B)}.$$