

Quark Polarization

Un-Polarized
(U)

Longitudinally Polarized
(L)

Transversely Polarized
(T)

Nucleon Polarization

U

$$f_1 = \text{circle with red dot in center}$$

$$h_1^\perp = \text{circle with red dot and red arrow pointing down} - \text{circle with red dot and red arrow pointing up}$$

Boer-Mulders

L

$$g_{1L} = \text{circle with red dot and red arrow pointing right} \rightarrow - \text{circle with red dot and red arrow pointing right} \rightarrow$$

Helicity

$$h_{1L}^\perp = \text{circle with red dot and red arrow pointing up-right} \rightarrow - \text{circle with red dot and red arrow pointing down-right} \rightarrow$$

T

$$f_{1T}^\perp = \text{circle with red dot and black arrow pointing up} - \text{circle with red dot and black arrow pointing down}$$

Sivers

$$g_{1T}^\perp = \text{circle with red dot and black arrow pointing up} - \text{circle with red dot and red arrow pointing right}$$

$$h_1 = \text{circle with red dot and red arrow pointing up} - \text{circle with red dot and red arrow pointing down}$$

Transversity

$$h_{1T}^\perp = \text{circle with red dot and red arrow pointing up-right} - \text{circle with red dot and red arrow pointing down-right}$$