

Abstract Submitted
for the DNP19 Meeting of
The American Physical Society

Spin responses to pion quasifree scattering. R. J. PETERSON,
University of Colorado, Boulder — Parity conservation for the scattering of spin zero
beams implies only transverse ($S \times q$) spin transfer. This allows a decomposition of
spin transfer $S=0$ and $S=1$ in terms of elementary spin amplitudes, similar to use of
the Rosenbluth decomposition as used for relativistic electron scattering. For pion
beams these amplitudes are known for scattering and charge exchange on nucleons,
so a separation of spin and nonspin single nucleon responses is possible for quasifree
pion scattering from nucleons within complex nuclei. A large body of pion quasifree
data, with and without charge exchange, allows single-nucleon responses of complex
nuclei to be determined across a wide range of nuclei for several pion beam energies.
Nonspin intercepts and transverse spin slopes will be presented to test this concept
for consistency and a summary will be provided.

R Peterson
University of Colorado, Boulder

Date submitted: 24 Jun 2019

Electronic form version 1.4