Induced Polarization of $\Lambda(1116)$ in Kaon Electroproduction

- Studies of $K^+\Lambda$ electroproduction provide for:
  - Complementary channel to $\pi N$ to study $N^*$ spectrum
  - Provide data to tune models to establish $K Y$ reaction mechanism
  - Complementary channel to photoproduction due to both longitudinal and transverse photocouplings of virtual photon

- Use self-analyzing nature of $\Lambda \rightarrow p\pi^-$ weak decay to measure $\Lambda$ induced polarization.

Integrate over $\Phi \Rightarrow$
\[ \text{only } n\text{-component is non-zero} \]

- Data compared to advanced single-channel hadrodynamic models fit to precision $\gamma p \rightarrow K^+\Lambda$ data do not describe the $\gamma^*p$ data.
  - need constraints from simultaneous fits to $\gamma p$ and $\gamma^*p \rightarrow K^+\Lambda$ data