

## Generalized Parton Distributions of the Deuteron in a Covariant Framework

*Saturday, 2 June 2018 17:10 (30 minutes)*

Generalized parton distributions (GPDs) of the deuteron have been calculated. The results of these calculations and the formalism used will be presented. General properties of spin-1 GPDs, including polynomiality sum rules, will be discussed. It will be shown that these expected properties are observed in a convolution formalism if nuclear structure is calculated in a Lorentz-covariant manner. A four-Fermi contact interaction based on the NJL model is used to construct a covariant deuteron wave function, which is in turn used to calculate GPDs, gravitational form factors, and transverse (impact parameter dependent) parton densities of the deuteron.

### E-mail

afreese@anl.gov

### Funding source

ANL LDRD

**Primary authors:** Dr FREESE, Adam (Argonne National Laboratory); Dr CLOET, Ian (Argonne National Laboratory)

**Presenter:** Dr FREESE, Adam (Argonne National Laboratory)

**Session Classification:** Parton and Gluon Distributions in Nucleons and Nuclei

**Track Classification:** PGDNN