

Abstract for an Invited Paper
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Tomography of the Proton.

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The discovery of the Generalized Parton Distributions (GPDs) in the mid 1990's is revolutionizing our way of thinking about the intrinsic structure of the proton. Previously, the structure of the proton was studied through its charge and current distribution in exclusive and elastic electron scattering described by electromagnetic and electroweak form factors, and independently through parton distribution functions obtained in deep inelastic inclusive processes. The profound relationship between these orthogonal descriptions of the proton was hidden due to the lack of a framework that would connect these descriptions in a theoretically consistent way. The GPDs provide a transparent description of this connection, and opened up a new avenue of research that will bring us closer to the ultimate goal of determining the proton's wave function. The concept of GPDs will be introduced at an elementary level from an experimentalist's perspective, and the first pioneering measurements, such as deeply virtual Compton scattering, will be discussed. These experiments are an important first step in getting access to these new distribution functions. Finally, an outlook at the future of this new area of fundamental research at the energy-doubled CEBAF electron accelerator at Jefferson Lab will be presented.