Determination of new, more general parton distributions in the nucleon and nuclei, particularly for sea quarks and gluons, is a major scientific goal of EIC. It is widely recognized that the Deeply Virtual Compton Scattering (DVCS) process is one of the most important and effective measurements to reach this goal. For example, the DVCS data can be directly used to make a determination of the gravitational form factors and to show that the mechanical pressure inside a proton exceeds that in a neutron star.

In the measurement of DVCS, the electron scatters from the nucleon (or nucleus) and the final-state consists of the scattered electron, the intact target and a real photon, which must all be detected simultaneously. The real photon is detected in an electromagnetic calorimeter over a wide angular range. In addition, the major source of background is π0 production followed by decay to two photons where one of the photons goes undetected. Thus, the electromagnetic calorimeter must cover the complete angular range, be hermetic and operate with high efficiency and good resolution.