

# MESON ELECTROPRODUCTION EXPERIMENTS AT JEFFERSON LAB AND THE KAON FORM FACTOR

Tanja Horn<sup>1,2</sup>

<sup>1</sup>Catholic University of America;

<sup>2</sup>Jefferson Lab

Pion and kaon form factors are of particular interest in our understanding of hadron structure as they are connected to the Goldstone modes of chiral dynamical symmetry breaking. The last decade saw a dramatic improvement in precision of charged pion form factor data and new results have become available on the pion transition form factor. Plans exist to nearly quadruple the momentum transfer over which the charged pion form factor is known. Data on the kaon form factor are sparse, mainly limited to the region that constrains the kaon electromagnetic radius from kaon-atomic electron scattering data. Kaon electro-production cross section data at large virtual photon mass allow one, in principle, to constrain the kaon form factor, although technical difficulties grow as compared to the pion case due to the larger kaon mass and further distance from the pole. Most of the precision cross section measurements at the 6 GeV Jefferson Lab were primarily designed for pions, but some of these experiments also captured kaons in their acceptance. I will show preliminary kaon cross section results from such experiments, and the implications for possible kaon form factor extractions at a 12-GeV Jefferson Lab. I will also show the kaon transverse charge density as extracted from time like form factor data and compare with pion and proton transverse charge densities.