Contribution ID: **123** Type: **Poster**

Onset of scaling violation in pion and kaon elastic electromagnetic form factors

Saturday, 27 June 2026 15:00 (2 hours)

Using a symmetry-preserving truncation of the quantum field equations describing hadron properties, parameter-free predictions are delivered for pion and kaon elastic electromagnetic form factors, $F_{P=\pi,K}$, thereby unifying them with kindred results for nucleon elastic electromagnetic form factors.
Regarding positive-charge states, the analysis stresses that the presence of scaling violations in QCD entails that $Q^2 F_P(Q^2)$ should exhibit a single maximum on $Q^2 > 0$.
Locating such a maximum is both necessary and sufficient to establish the existence of scaling violations.
The study predicts that, for charged π, K mesons, the $Q^2 F_P(Q^2)$ maximum lies in the neighbourhood $Q^2 \simeq 5\,\mathrm{GeV}^2$.
Foreseeable experiments will test these predictions and, providing their Q^2 reach meets expectations, potentially also provide details on the momentum dependence of meson form factor scaling violation.

Collaboration

Primary author: YAO, Zhaoqian (Helmholtz-Zentrum Dresden-Rossendorf)

Presenter: YAO, Zhaoqian (Helmholtz-Zentrum Dresden-Rossendorf)

Session Classification: Poster session