Abstract Submitted
for the APR20 Meeting of
The American Physical Society

ω photoproduction within a novel unitary isobar model SHAHAB RAZAVI, KANZO NAKAYAMA, University of Georgia — The ω photoproduction off proton is analyzed within a novel unitary isobar model constructed based on the recent work by Razavi and Nakayama [Phys. Rev. D 100, 114036], where the full complex phase structure of the meson-baryon as well as the meson photoproduction amplitudes have been exposed. In this model unitarity is preserved through the so-called generalized Watson's factor. Moreover, apart from the usual u and t-channel Feynman diagrams, we include a generalized contact current in the driving potential in the background amplitude, which guarantees the local gauge invariance of the resulting full amplitude by satisfying the Ward-Takahashi identity. The analysis considers the currently available high-precision cross section as well as the nine independent spin observables data, especially from the CLAS Collaboration.

Shahab Razavi
University of Georgia

Date submitted: 10 Jan 2020 Electronic form version 1.4