

Abstract Submitted
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Partial-wave analysis of K^+ nucleon scattering¹ WILLIAM GIBBS,
ROBERTO ARCEO, New Mexico State University — We have performed a partial-
wave analysis of K^+ -nucleon scattering in the beam momentum range from 0 to 1.5
GeV/c addressing the uncertainties of the results and comparing them with previous
analyses. A careful treatment of the reaction threshold behavior is particularly
important to avoid false indications of resonances. We find a $T=0$ scattering length
which is not consistent with zero, contrary to what has been claimed by other
analyses. The $T=0$ phase shifts for $\ell > 0$ are found to be consistent with a pure
spin-orbit potential. Some indications for the production of a $T=0$ pentaquark with
spin-parity $D5/2+$ will be discussed.

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