

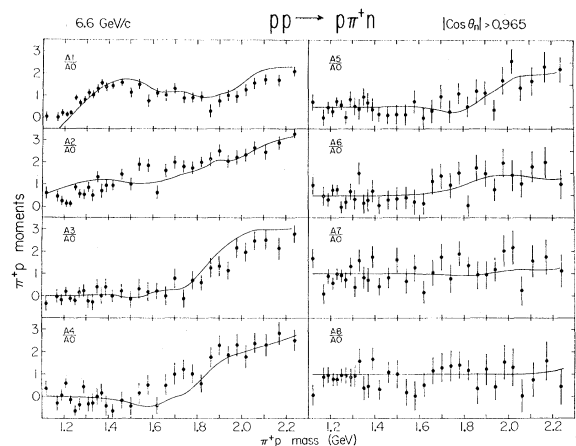


FIG. 2. Legendre coefficients of the $p\pi^+$ system in $pp \rightarrow p\pi^+n$ versus $p\pi^+$ effective mass for events with c.m. production angle $|\cos\theta_n| > 0.965$. Solid curves represent the moments from real π^+p elastic scattering experiments.

production ($\sim 25\%$). Furthermore, we note that of the 599 events of reaction (3b) used in Fig. 1(a), 116 of them also contribute to the sample of reaction (1b) used in Ref. 1. We conclude that if this contributing source of background to the numerator of the ratio plotted in Fig. 1(a) is taken into account, one achieves approximate agreement between this ratio and the on-shell π^+p cross-section ratio. In view of the proximity of data points and curve in Fig. 1(a) when this correction is made, it seems pointless to pursue model-dependent corrections further at this stage.

Experimental determinations of on-shell inelastic cross-sections ($X\pi \rightarrow Y$, $Y \neq X\pi$) in processes of the type $Xp \rightarrow Yn$ or $Xp \rightarrow Y\Delta^{++}$ can be obtained by

extrapolation of the appropriate Chew-Low distribution to the pion-exchange pole. Our results suggest that the form of the extrapolation function used should have approximately the same form used for elastic $X\pi$ scattering.

Finally, to demonstrate explicitly the one-pion-exchange (OPE) character³ of reaction (3a), we show in Fig. 2 the Legendre moments for $l \leq 8$ [$A_l/A_0 = (2l+1)\langle P_l \rangle$] evaluated in the π^+p rest frame⁴ as a function of π^+p effective mass. The solid curves represent the known⁵ on-shell π^+p elastic scattering data. The agreement is seen to be quite good in general, although there do exist several discrepancies which may have to do with, for example, (a) off-mass-shell effects in π^+p scattering (this affects A_1/A_0 at low mass most severely),⁶ and (b) spin alignment of $\Delta(1238)$ not in agreement with the simple-minded OPE model (which predicts $\sim 1+3\cos^2\Theta$). This may be analogous to the observed "depolarization" of the ρ^0 produced in $\pi^-p \rightarrow \rho^0n$. In this case nonzero helicity states of the ρ^0 , forbidden by simple-minded OPE but explained, for example, by the absorption model, are found to occur.

³ The pole extrapolation results from the analysis quoted in Ref. 2 provide further evidence. The l -dependent extrapolation function used is approximately the same used in all other reactions involving D^{++} production (see also Ref. 6).

⁴ We used the incident proton at the π^+p vertex as seen in the π^+p rest frame as the polar axis in evaluating these moments.

⁵ A. Donnachie, R. G. Kirsopp, and C. Lovelace, CERN Report No. CERN TH 838, Addendum, 1967 (unpublished).

⁶ Eugene Colton and Peter E. Schlein, in Proceedings of the Conference on $\pi\pi$ and $K\pi$ Interactions, Argonne National Laboratory, 1969, edited by F. Loeffler and E. Malamud (to be published).

Errata

Baryon Exchanges from u -Channel Finite-Energy Sum Rules, V. BARGER, C. MICHAEL, AND R. J. N. PHILLIPS [Phys. Rev. **185**, 1852 (1969)]. Equations (16) and (17) should have a factor of 2 on the right-hand side, since they refer to s -channel isospin eigenstates. This error originated from a misprint in the second paper of Ref. 11. The following changes should be made in the evaluations displayed in Fig. 5: The solid curve of $\int \text{Disc} B$ for the $\Lambda_\gamma\text{-}\Lambda_\delta$ FESR should be displaced upwards by +10,

and the Λ_α pole values for the $\Lambda_\alpha\text{-}\Lambda_\beta$ FESR should be doubled.

Regge Poles and Finite-Energy Sum Rules for Kaon-Nucleon Scattering, G. V. DASS AND C. MICHAEL [Phys. Rev. **175**, 1774 (1968)]. We wish to clarify that on p. 1782, the Born terms of Eqs. (17) and (19) are written for the contributions of conventional A (not A') and B amplitudes to K^-p elastic scattering.