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Abstract

PION-PION SCATTERING ANALYSIS OF 205 GeV  $\pi^-p$  INTERACTIONS  
IN THE NAL 30-INCH HYDROGEN BUBBLE CHAMBER\*

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ABSTRACT (Abstract only. No full text available.)

A number of experiments at beam momenta below  $\sim 25$  GeV/c have yielded results on  $\pi^- \pi^+$  and  $\pi^- \pi^-$  scattering cross sections, obtained by modified Chew-Low extrapolation techniques applied to the reactions  $\pi^- p \rightarrow \Delta^+ \pi^+ \pi^-$ . We have applied these same techniques to a small sample (169 events) of the reaction  $\pi^- p \rightarrow p \pi^+ \pi^-$  obtained from a 48,000-photo exposure of the NAL 30-inch hydrogen bubble chamber to a 205 GeV  $\pi^-$  beam. Our statistics are insufficient to test the validity of the analysis at these high energies but we find  $\pi^- \pi^+$  and  $\pi^- \pi^-$  elastic scattering cross sections in the  $M_{\pi^+ \pi^-} = 5$  GeV region which are comparable to those observed for  $M_{\pi^+ \pi^-} \sim 3$  GeV. Results will be presented of an attempt to obtain inelastic and total  $\pi\pi$  scattering cross-section estimates under similar assumptions.

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