

Abstract Submitted  
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**$\pi^-p \rightarrow \pi^-p$  and  $\pi^-p \rightarrow K\Lambda$  measurements in the 1700 MeV mass region**<sup>1</sup> MICHAEL SADLER, Abilene Christian University, INSTITUTE FOR THEORETICAL AND EXPERIMENTAL PHYSICS (ITEP) TEAM, PETERSBURG NUCLEAR PHYSICS INSTITUTE (PNPI) TEAM, ABILENE CHRISTIAN UNIVERSITY (ACU) TEAM — An experimental program is underway at ITEP in Moscow to measure differential cross sections for  $\pi^-p \rightarrow \pi^-p$  and  $\pi^-p \rightarrow K\Lambda$  at pion momenta 900 – 1200 MeV/ $c$  ( $\sqrt{s} = 1610 - 1770$  MeV). For the elastic measurement the outgoing pion and proton will be measured using scintillator hodoscopes and drift chambers over a cm angle range of  $40^\circ - 120^\circ$ . For the  $K\Lambda$  final state, the decay vertices for  $K \rightarrow \pi^+\pi^-$  and  $\Lambda \rightarrow \pi^-p$  will be reconstructed using drift chambers to identify the events. A statistical precision of 0.5% and 1.0% is planned for the elastic and strangeness production measurements, respectively. The incident beam momenta will be binned in 1 MeV/ $c$  increments to provide a mass resolution of 0.5 MeV in order to be sensitive to narrow resonances such as the possible non-strange pentaquark partner that has been predicted to have a mass near 1700 MeV. Irrespective of the pentaquark situation, the measurements will greatly improve the data upon which the properties of the conventional  $N^*(1710)$  resonance are determined.

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Michael Sadler  
Abilene Christian University

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