Resonance production in the reaction $\pi^- p \to n\pi^+\pi^-\pi^0\pi^0$

T. Adams,[1] J. M. Bishop,[1] N. M. Cason,[1] J. M. LoSecco,[1] J. J. Manak,[1]
A. H. Sanjari,[1] W. D. Shephard,[1] D. L. Stienike,[1] S. A. Taegar,[1] D. R. Thompson,[1]
S. U. Chung,[2] R. W. Hackenburg,[2] C. Olchanski,[2] D. P. Weygand,[2] H. J. Willutzki,[2]
S. Denisov,[3] A. Dushkin,[3] V. Kochetkov,[3] I. Shein,[3] A. Soldatov,[3] B. B. Brabson,[4]
R. R. Crittenden,[4] A. R. Dzierba,[4] J. Gunter,[4] R. Lindenbusch,[4] D. R. Rust,[4]
E. Scott,[4] P. T. Smith,[4] T. Sulanke,[4] S. Teige,[4] Z. Bar-Yam,[5] J. P. Dowd,[5]
P. Eugenio,[5] M. Hayek,[5,b] W. Kern,[5] E. King,[5] V. A. Bodyagin,[6] A. M. Gribushin,[6]
M. A. Kostin,[6] V. L. Korotkikh,[6] A. I. Ostrovidov,[6] A. S. Proskuryakov,[6]
L. I. Sarycheva,[6] N. B. Sinev,[6] I. N. Vardanyan,[6] A. A. Yershov,[6] D. S. Brown,[7]
T. K. Pedlar,[7] K. K. Seth,[7] J. Wise,[7] D. Zhao,[7] G. S. Adams,[8] J. Napolitano,[8]
M. Nozar,[8] J. A. Smith,[8] and M. Witkowski.[8]

(1)Notre Dame, (2)Brookhaven, (3)IHEP Protvino, (4)Indiana, (5)Massachusetts Dartmouth, (6)Moscow State, (7)Northwestern, (8)Rensselaer Collaboration (E852)

E852 Spokespersons N.M. Cason and S.U.Chung

Submitted by G.S. Adams

Abstract

Properties of the $n\omega\pi$, $n\rho\rho$, and $na_2(1320)\pi$ final states produced in the reaction $\pi^- p \to n\pi^+\pi^-\pi^0\pi^0$ at 18 GeV are described. The photons from π^0 decay are detected with a lead glass hodoscope constructed at the MultiParticle Spectrometer at Brookhaven National Laboratory. Searches for resonance structure in the $\omega\pi$, $\rho\rho$, and $a_2(1320)\pi$ systems has been carried out and preliminary results are presented.