A Study of the $\eta\eta\pi^-$ and $\omega\eta\pi^-$ Systems Produced in the Reaction $\boldsymbol{\pi^- p \to \pi^+\pi^-\pi^- 4\gamma n}$ at 18 GeV/c

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Preliminary results are reported on the production of $\eta\eta\pi^-$ and $\omega\eta\pi^-$ in the reaction $\pi^- p \to p\pi^+\pi^-\pi^-\pi^\circ\eta$ at 18 GeV/c where both π° and η decay to 2γ. The data were obtained using the MultiParticle Spectrometer at Brookhaven National Laboratory. In the $\eta\eta\pi^-$ channel, a strong $a_\circ(980)$ signal decaying to $\eta\pi^-$ is present. The accepted $a_\circ(980)\eta$ mass spectrum exhibits a structure consistent with the $\pi(1800)$. In the $\omega\eta\pi^-$ channel, the $\omega\pi^-$ mass spectrum peaks at the mass of the $b_1(1235)$ which might indicate the presence of states decaying to $b_1(1235)\eta$.