General aspects of the A$(\pi, 2\pi)$ reaction

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The $(\pi, 2\pi)$ reaction has been studied on several nuclei at intermediate energies (240-300 MeV) with the CHAOS spectrometer at TRIUMF. Several differential cross-sections were measured following the detection of multiparticle $(\pi^+, \pi^+\pi^\pm)$ and $(\pi^+, \pi^+\pi^\pm p)$ events, which allowed us to understand the general properties of the pion production reaction inside the nucleus. Moreover, particular attention has been devoted to the study of the effects of nuclear matter on the $\pi - \pi$ scalar-isoscalar system. The most relevant results will be reviewed and compared to theories as well as to other recent experimental results.

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