
38th INTERNATIONAL CONFERENCE
ON HIGH ENERGY PHYSICS
AUGUST 3 - 10, 2016
CHICAGO

Contribution ID: **1408** Type: **Poster**

# Pion Production at MINERvA

*Saturday, 6 August 2016 18:00 (2 hours)*

Pion production is the primary process by which neutrinos
are identified in running oscillation experiments such as Nova
and proposed experiments such as DUNE. MINERvA has completed
a variety of charged current cross section measurements of this
type for CH targets. The coherent pion measurements have the final state
nucleus in the ground state. This process becomes an important background
in oscillation electron neutrino appearance experiments.
MINERvA has published the most complete data set.
The inelastic pion production cross section is much larger.
This process must be modeled well in Monte Carlo simulation
since it is an important signal in oscillation experiments.
Here, a comprehensive data set for both pi+ and pi0 production
with both neutrino and antineutrino beams are available.
While pion final state interactions in the residual nucleus are the
focus of the pion energy and angle data, the muon energy and
angle and invariant momentum transfer provide information on
the influence of the nuclear initial state. Data will be compared
with theoretical calculations available.

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**Session Classification:** Poster Session

**Track Classification:** Neutrino Physics