

## New Perspectives



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## CC $\nu_\mu$ 1 $\pi^+$ production in the MINERvA tracker

In the aim to reduce the uncertainties in future neutrino oscillation experiments, it is necessary to have high accuracy in neutrino-nucleon cross section models. For this reason, the MINERvA experiment has measured many different exclusive neutrino-nucleon cross sections. Charged current neutrino Interactions with positive charged pion production is the predominant channel in the  $1 \text{ GeV} < W < 1.5 \text{ GeV}$  region. A large proportion of the 1-pion events in this region involve resonance production. For this reason, this  $W$  region is called the resonance region, and it is located between the quasielastic region and Deep Inelastic Scattering region. This talk will describe measurements of differential cross sections of 1-pion events in the scintillator tracker region of the MINERvA detector, including results from both the LE ( $< E_\nu > = 3 \text{ GeV}$ ) era and the ME era ( $< E_\nu > = 6 \text{ GeV}$ ).

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