Abstract

It is shown that several ratios of neutral to charged current cross sections are determined accurately, because the largest contribution is determined by isospin symmetry and the smaller terms are estimated from data or theoretical calculations. This way the theoretical uncertainty is very small. It is further discussed that the ratios can be measured at various distances from the origin of the neutrino beams, because an increase with distance will be indication for neutrino oscillations and will allow a precise determination of the oscillation parameters. Finally, coherent scattering is discussed as a useful reaction for oscillations and as a means of searching for new light particles.