Muon Neutrino and Anti-Neutrino Charged-Current Total Cross Section

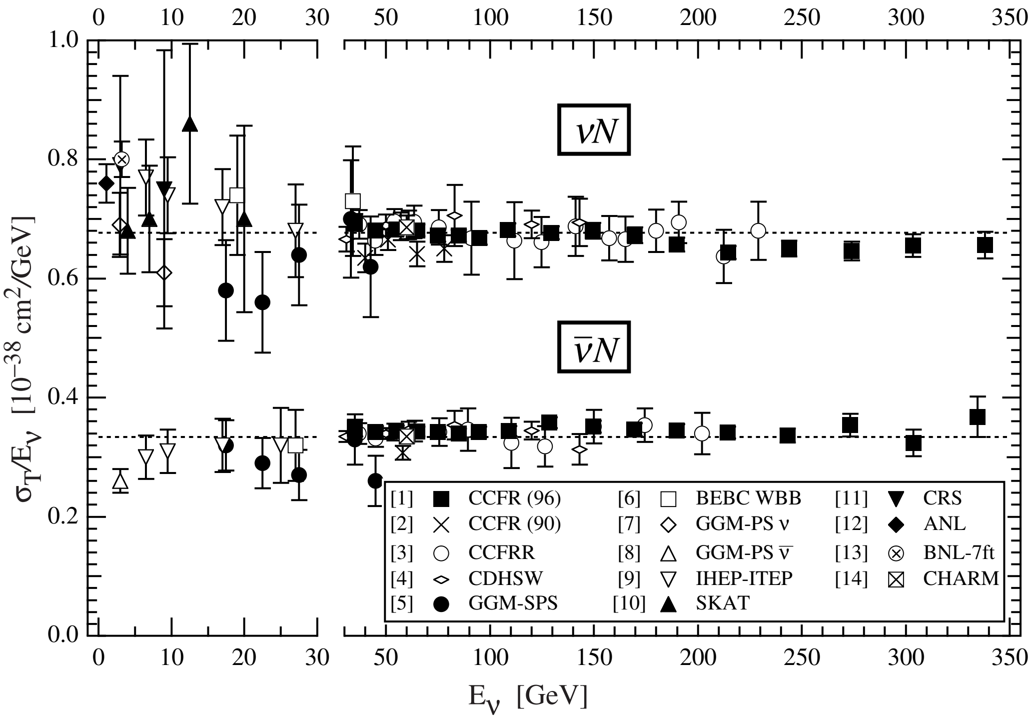

Figure 37.17: σ_T/E_ν, for the muon neutrino and anti-neutrino charged-current total cross section as a function of neutrino energy. The error bars include both statistical and systematic errors. The straight lines are the averaged values over all energies as measured by the experiments in Refs. [1–4]: $= 0.677 \pm 0.014$ $(0.334 \pm 0.008) \times 10^{-38}$ cm^2/GeV. Note the change in the energy scale at 30 GeV. (Courtesy W. Seligman and M.H. Shaevitz, Columbia University, 2000.)

[1] W. Seligman, Ph.D. Thesis, Nevis Report 292 (1996);

[2] P.S. Auchincloss *et al.*, Z. Phys. **C48**, 411 (1990);

[3] D.B. MacFarlane *et al.*, Z. Phys. **C26**, 1 (1984);

[4] P. Berge *et al.*, Z. Phys. **C35**, 443 (1987);

[5] J. Morfin *et al.*, Phys. Lett. **104B**, 235 (1981);

[6] D.C. Colley *et al.*, Z. Phys. **C2**, 187 (1979);

[7] S. Campolillo *et al.*, Phys. Lett. **84B**, 281 (1979);

[8] O. Erriquez *et al.*, Phys. Lett. **80B**, 309 (1979);

[9] A.S. Vovenko *et al.*, Sov. J. Nucl. Phys. **30**, 527 (1979);

[10] D.S. Baranov *et al.*, Phys. Lett. **81B**, 255 (1979);

[11] C. Baltay *et al.*, Phys. Rev. Lett. **44**, 916 (1980);

[12] S.J. Barish *et al.*, Phys. Rev. **D19**, 2521 (1979);

[13] N.J. Baker *et al.*, Phys. Rev. **D25**, 617 (1982);

[14] J.V. Allaby *et al.*, Z. Phys. **C38**, 403 (1988).