The integral in Eq. (1) is presumed to converge for all $n \geq 0$. It therefore defines the $F_i^{(n)}$ as functions of complex n, regular for Re $n > 0$. For the present discussion we shall adopt the one additional assumption that the analytically continued moment functions are regular for all Re $n > -n_o$, where n_o is some small, but non vanishing positive number, independent of q^2. For given n, at large enough q^2, the $F_i^{(n)}$ are given by Eq. (2). The exponent functions $a_n(i)$ that occur in that equation can be explicitly computed and turn out to be regular for all Re $n > -1$. We are assuming that the coefficients function $b_n(i)$ are also regular, at least for Re $n > -n_o$. In the following discussion we will be concerned with real values of n in the vicinity of $n = 0$.

Let us now turn to the cross section bounds for

$$\nu + N \longrightarrow \mu^- + X$$

and the corresponding antinuetrino reaction. Dropping at the outset certain kinematic corrections of order m/ε, we have for the differential cross section

$$\frac{\partial\sigma}{\partial x\,\partial q^2} = \frac{G^2}{2\varepsilon x}\left\{\left(1-y+\frac{y^2}{2}\right)F_2 - \frac{F_L}{2}y^2 \mp y\left(1-\frac{y}{2}\right)x F_3\right\}, \quad (3)$$

where the upper sign in the last term refers to the neutrino reactions, the lower sign to the antineutrino reactions; and where

$$x = \omega^{-1} = q^2/2m\nu, \quad y = q^2/2mx\varepsilon, \quad F_L = F_2 - 2x F_1 . \quad (4)$$