

**Erratum: “Parameterization of γ , e^\pm and Neutrino Spectra
Produced by $p - p$ Interaction in Astronomical Environment”
(ApJ, 647, 692[2006])**

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The authors regret that there were errors in the Eqns 1, 3, and 4 and in Table 1. The errors occurred while transcribing parameters and numerical values from the computer code to the journal text. The results presented in the publication need no correct nor the attached computer programs. The authors thank Ching-Yuan Huang and Jun Fang for pointing out the errors in the text.

Equation 1 should read as,

$$\sigma_{\text{NonDiff}}^{pp}(x)[\text{mb}] = \begin{cases} 0 & P_p < 1 \text{ GeV}/c, \\ 0.57(x/a_0)^{1.2}(a_2 + a_3x^2 + a_4x^3 \\ \quad + a_5 \exp(-a_6(x + a_7)^2)) & 1 \leq P_p \leq 1.3 \text{ GeV}/c, \\ (b_0|a_1 - x| + b_1|a_0 - x|)/(a_1 - a_0) & 1.3 \leq P_p \leq 2.4 \text{ GeV}/c, \\ a_2 + a_3x^2 + a_4x^3 & 2.4 \leq P_p \leq 10 \text{ GeV}/c, \\ \quad + a_5 \exp(-a_6(x + a_7)^2) & \\ c_0 + c_1x + c_2x^2 & P_p > 10 \text{ GeV}/c \end{cases} \quad (1)$$

Equation 3 should read as,

$$\sigma_{\Delta 1232}^{pp}(x)[\text{mb}] = \begin{cases} 0 & E_p < 1.4 \text{ GeV}, \\ f_0 E_p^{10} & 1.4 \leq E_p \leq 1.6 \text{ GeV}, \\ f_1 \exp(-f_2(E_p - f_3)^2) & 1.6 \leq E_p \leq 1.8 \text{ GeV}, \\ f_4 E_p^{-10} & 1.8 \leq E_p \leq 10 \text{ GeV}, \\ 0 & E_p > 10 \text{ GeV} \end{cases} \quad (3)$$

Equation 4 should read as,

$$\sigma_{\text{Res}(1600)}^{pp}(x)[\text{mb}] = \begin{cases} 0 & E_p < 1.6 \text{ GeV}, \\ g_0 E_p^{14} & 1.6 \leq E_p \leq 1.9 \text{ GeV}, \\ g_1 \exp(-g_2(E_p - g_3)^2) & 1.9 \leq E_p \leq 2.3 \text{ GeV}, \\ g_4 E_p^{-6} & 2.3 \leq E_p \leq 20 \text{ GeV}, \\ 0 & E_p > 20 \text{ GeV} \end{cases} \quad (4)$$

Table 1 should be replaced with the new one given below.

Table 1: Constants for equations 1, 2, 3 and 4.

$a_0 = 0.1176$	$b_0 = 11.34$	$c_0 = 28.5$	$d_0 = 0.3522$	$e_0 = 5.922$	$f_0 = 0.0834$	$g_0 = 0.0004257$
$a_1 = 0.3829$	$b_1 = 23.72$	$c_1 = -6.133$	$d_0 = 0.1530$	$e_1 = 1.632$	$f_1 = 9.5$	$g_1 = 4.5$
$a_2 = 23.10$		$c_2 = 1.464$	$d_2 = 1.498$		$f_2 = -5.5$	$g_2 = -7.0$
$a_3 = 6.454$			$d_3 = 2.0$		$f_3 = 1.68$	$g_3 = 2.1$
$a_4 = -5.764$			$d_4 = 30.0$		$f_4 = 3134$	$g_4 = 503.5$
$a_5 = -23.63$			$d_5 = 3.155$			
$a_6 = 94.75$			$d_6 = 1.042$			
$a_7 = 0.02667$						
