Erratum to: Cosmic Ray Spectrum Approximation Model: Experimental Results and Comparison with Other Models

M. Buchvarova · D. Draganov

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We have found four serious and some minor typographical errors in our paper “Cosmic-Ray Spectrum Approximation Model: Experimental Results and Comparison with Other Models”.

The first serious error is related to the rigidity loss ϕ and the force-field parameter φ . In particular, the symbol ϕ is replaced with φ in some places of the article. Additionally, there is a semantic error in Section 3, paragraph 3. The error corrections are given below:

Figure 2: “ φ ” should be changed to “ ϕ ” in the caption of Figure 2, *i.e.* the correct sentence is: “Local interstellar spectrum $f_{\text{LIS}}(P)$ and modulated cosmic-ray spectrum $f(P)$, described by the distribution function f ; $P'' - P = \phi$, ϕ is the force-field rigidity loss.”

Section 3, paragraph 2: the expression “see Figure 2, where the force-field rigidity loss φ is described by a horizontal line” should be replaced by: “see Figure 2, where the force-field rigidity loss ϕ is described by a horizontal line”.

Section 3, paragraph 3: the expression “the force-field rigidity loss φ represented by the horizontal line in Figure 2” should be replaced by: “the force-field rigidity loss ϕ represented by the horizontal line in Figure 2”.

In Section 3, paragraph 3 the sentence “The relation between α_P , β_P and the modulation potential φ , given in Section 4.1.2. of Moraal (2011), indicates that ϕ is numerically equal to the modulation potential φ only in the special case of relativistic particles ($\bar{v} \approx 1$) and rigidity dependence $k_2 \sim P$.” should be replaced by: “The relation between α_P , β_P and the modulation potential φ is given in Section 4.1.2. Moraal (2011) indicates that ϕ is numer-

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M. Buchvarova (✉) · D. Draganov
Space Research and Technology Institute – Bulgarian Academy of Sciences, Acad. G. Bonchev Str,
Bl.1, Sofia 1113, Bulgaria
e-mail: marusjab@yahoo.com

ically equal to the force-field parameter φ only in the special case of relativistic particles ($\bar{v} \approx 1$) and for rigidity dependence $k_2 \sim P$."

Section 3, paragraph 3: the sentence "In all other cases, the rigidity loss φ in Figure 2 cannot be represented by a modulation potential, and the modulation in the force-field formalism is better described using the dimensionless parameter M (Moraal, 2011)." should be replaced by: "In all other cases, the rigidity loss ϕ in Figure 2 cannot be represented by a force-field parameter, and the modulation in the force-field formalism is better described using the dimensionless parameter M (Moraal, 2011)."

Section 4.1.2, paragraph 1: the expression "If the force-field rigidity loss φ is numerically equal to the modulation potential φ and $\beta_P^* \equiv \tan \theta^*$, then the tangent in Figure 2 is" should be replaced by: "If the rigidity loss ϕ is numerically equal to the force-field parameter φ and $\beta_P^* \equiv \tan \theta^*$, then the tangent in Figure 2 is".

Also, there is a typographical error in formula (21). The correct equation is:

$$\beta_P = \frac{\ln(f_{\text{LIS}}(P)) - \ln(f(P))}{\ln(P + \alpha_P) - \ln(P)}. \quad (21)$$

In Section 6, paragraph 1 the sentence "Drift mechanisms have time lags of several months and are characterized by a hysteresis phenomenon (Kane, 2003)." should be replaced by: "Long-term variation in cosmic ray intensity modulation, determined by convection–diffusion and drift mechanisms, has a time lag of several months and is characterized by a hysteresis phenomenon (Kane, 2003)."

Minor corrections in the article:

Within the abstract there is an error in the following sentence: "We derive a relation between the parameters of the CRSA and MSU models for rigidities above about 10 GV (drift effects are ignored) during periods of low to approximately average levels of solar activity." The correct sentence is: "We derive a relation between the parameters of the CRSA and MSU models for rigidities above about 10 GV during periods of low to approximately average levels of solar activity." Also, there is an error in the expression: "i) the model parameters do not depend on rigidity". The correct expression is: "i) the model parameters do not depend on rigidity and time".

Section 4.1.2, paragraph 2: the expression "By substitution of the expression for $\ln(f_{\text{LIS}}(P)/f(P))$ from Equation (21) in Equation (24), and taking into account Equation (2), one gets:" should be replaced by: "By substitution of the expression for $\ln(f_{\text{LIS}}(P)/f(P))$ from Equation (21) in Equation (24) we get:"

Section 5, paragraph 3: the sentences "Drift effects become negligible at $P \cong E$ and in this case P_0 and Δ are almost independent on the rigidity P of the particles (Nymmik, Panasyuk, and Suslov, 1996)." should be replaced by: " P_0 and Δ are almost independent of the rigidity P of the particles at $P \cong E$ (Nymmik, Panasyuk, and Suslov, 1996)."

Section 6, paragraph 3: the sentences "A relation is derived between the parameters of the CRSA and MSU models for rigidities above about 10 GV (drift effects are ignored) during periods of low to approximately average levels of solar activity." should be replaced by: "A relation is derived between the parameters of the CRSA and MSU models for rigidities above about 10 GV during periods of low to approximately average levels of solar activity."

Section 6, paragraph 3: the expression "i) α and β are not rigidity-dependent parameters" should be replaced by: "i) α and β are not time- and rigidity-dependent parameters".