

Erratum to: Relating the CMSSM and SUGRA models with GUT scale and super-GUT scale supersymmetry breaking

Emilian Dudas^{1,2,3}, Yann Mambrini³, Azar Mustafayev^{4,a}, Keith A. Olive⁴

¹Department of Physics, Theory Division, 1211, Geneva 23, Switzerland

²CPhT, Ecole Polytechnique, 91128 Palaiseau, France

³Laboratoire de Physique Théorique, Université Paris-Sud, 91405 Orsay, France

⁴William I. Fine Theoretical Physics Institute, School of Physics and Astronomy, University of Minnesota, Minneapolis, MN 55455, USA

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In the original version of the paper, there was an ambiguity between the value of μ before and after the shift due to the Giudice–Masiero (GM) term. Here, we will clarify the equations which were affected. We define μ_0 as the μ -term in the superpotential defined at the input universality scale M_{in} . $\mu(M_{\text{in}})$ will refer to the μ -term after the shift induced by the GM contribution to the Kähler potential also defined at the input scale. Then Eq. (12) becomes

$$\mu(M_{\text{in}}) = \mu_0 + c_H m_0. \quad (12)$$

Similarly, $\mu B(M_{\text{in}})$ is defined as

$$\mu B(M_{\text{in}}) = \mu_0 B_0 + 2c_H m_0^2, \quad (13)$$

which replaces Eq. (13). As a consequence, we would find

$$B(M_{\text{in}}) = (A_0 - m_0)\mu_0/\mu(M_{\text{in}}) + 2c_H m_0^2/\mu(M_{\text{in}}). \quad (14)$$

This clarification affects the result only in Sect. 2 of the paper. For $M_{\text{in}} = M_{\text{GUT}}$, and when the Giudice–Masiero

term (11) is included [15], one can deduce the (GUT) boundary conditions for μ and B :

$$\mu(M_{\text{GUT}}) = \mu_0 + c_H m_0, \quad (16)$$

$$B(M_{\text{GUT}}) = (A_0 - m_0)\mu_0/\mu(M_{\text{GUT}}) + 2c_H m_0^2/\mu(M_{\text{GUT}}). \quad (17)$$

This allows us to solve for c_H where we obtain an equation similar to Eq. (30):

$$c_H = (B(M_{\text{GUT}}) - A_0 + m_0)\mu(M_{\text{GUT}})/(3m_0^2 - A_0 m_0). \quad (18)$$

These changes affect the contours in Figs. 2–4. In Fig. 2, with $A_0 = 0$, all contour labels should be multiplied by 2/3. In Fig. 3, with $A_0 = 2.5m_0$, all contours should be multiplied by 4.0. In Fig. 4a, with $A_0 = 0$, all contour labels should be multiplied by 2/3. Finally, in Fig. 4b, with $A_0 = 2.0m_0$, all contour labels should be multiplied by 2.0.

All results and figures in Sects. 3 and 4 remain unaffected.

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^ae-mail: azar@phys.hawaii.edu