

Corrections for “A Supersymmetry Primer”, version 3

Please note that v3 is now hopelessly obsolete; you should be reading v4 (June 2006) instead!

The following is a list of known corrections to hep-ph/9709356 v3, dated April 7, 1999. If you have one of the other versions, you can find the corresponding list of corrections at:

<http://zippy.physics.niu.edu/primer.html>

Please send any further corrections or suggestions to spmartin@niu.edu.

This list was last updated: June 1, 2006

- Section 1, eq. (1.2): The numerical coefficient of the logarithmic term should not be 6. In fact, it should be 12 for the real component of the complex field H and 4 for the imaginary part of H . This difference is due to the fact that the fermion mass necessarily breaks the electroweak symmetry, so one can't really talk about the logarithmic correction to m_H^2 as if it were universal. The Λ_{UV}^2 correction is the same for the real and imaginary parts of H , however, and is correct as given. (Thanks to Shufang Su.)
- Section 3.2, eq. (3.46): The indices ij should be lowered on W^{*ij} .
- Section 5.1, third sentence of the second full paragraph after eq. (5.3): There are five, not nine, more scalar quartic interactions proportional to y_t^2 besides the three shown in Figure 8. (Thanks to Bob McElrath and Keith Thomas.)
- Section 5.2, third sentence of the first full paragraph after eq. (5.8): Instead of minutes or hours, the proton lifetime would actually be a tiny fraction of a second if all components of λ' and λ'' were of order unity. (Thanks to John Terning.)
- Section 6.1, eqs. (6.4) and (6.5): There are three minus sign errors. These equations should read:

$$V = -\frac{1}{2}D^2 - \kappa D - gD \sum_i q_i \phi^{*i} \phi_i$$
$$D = -\kappa - g \sum_i q_i \phi^{*i} \phi_i$$

- Section 6.3, second full sentence after eq (6.25): $\langle F_X \rangle$ should actually be: $\sqrt{\langle F_X \rangle}$. (Thanks to Verónica Sanz.)
- Section 6.4, third full sentence after eq. (6.47): “squared masses $y_i \langle S \rangle$ ” should read “squared masses $|y_i \langle S \rangle|^2$ ”. (Thanks to Verónica Sanz.)
- Section 7.1, eq. (7.23): The coefficient of $g_1^2 |M_1|^2$ should be $-\frac{6}{5}$, not $-\frac{3}{5}$. (Thanks to Scott Thomas and Gudrun Hiller.)
- Section 7.2, eq. (7.41): The factor of $\sin^4 \beta$ should actually be $\sin^2 \beta \cos^2 \alpha$. However, in the usual decoupling limit of $m_{A^0} \gg m_Z$, then $\cos \alpha \approx \sin \beta$ and eq. (7.41) becomes correct as written. (Thanks to John Terning and Gudrun Hiller.)