Erratum: LHC explores what LEP hinted at: *CP*-violating type-I 2HDM

Wolfgang Mader, Jae-hyeon Park, Giovanni Marco Pruna, Dominik Stöckinger and Arno Straessner

*Institut für Kern- und Teilchenphysik, Technische Universität Dresden,
Zellescher Weg 19, 01069 Dresden, Germany*

E-mail: Wolfgang.Mader@cern.ch, jae-hyeon.park@tu-dresden.de,
Giovanni.Marco.Pruna@tu-dresden.de,
Dominik.Stoeckinger@tu-dresden.de, Arno.Straessner@cern.ch

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In this erratum, we correct two errors in ref. [1] that were found after the publication.

In the left hand side of eq. (2.14), μ must be squared, which results in the following corrected equation:

$$\mu^2 = \text{Re } m_{12}^2 / \sin 2\beta. \quad (2.14)$$

Since this was purely a typographical mistake, it did not cause a numerical error.

In figures 4, the production cross-sections of h , H , and A , each in association with a charged Higgs, must be doubled. The corrected plots are presented here. This underestimation was localized to figures 4, and does not change the overall conclusions of the original publication.

Acknowledgments

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References

- [1] W. Mader, J.-H. Park, G.M. Pruna, D. Stöckinger and A. Straessner, *LHC explores what LEP hinted at: CP-violating type-I 2HDM*, *JHEP* **09** (2012) 125 [[arXiv:1205.2692](#)] [[INSPIRE](#)].

Figure 4. Production cross-section of each neutral Higgs in association with a charged Higgs via a virtual W -boson in the CP -conserving case. The masses are $M_h = M_A = 125$ GeV, $M_H = 200$ GeV. For each channel, the lighter and the darker curves represent $\sqrt{s} = 7$ TeV, 14 TeV, respectively. In panel 4b, the hatched region is excluded by LEP at 95% CL, and each curve is for $\alpha_1 - \beta$ that maximises the cross-section.