

## Errata

### New Parameterization in Muon Decay and the Type of Emitted Neutrino. II

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1. The inequality  $\rho^{(s,t)} > 0$  in Eq. (2.25) should be replaced by  $\rho^{(s,t)} \geq 0$ .
2. Equation (2.36) in §2 should be changed from  $\eta^{(2,0)} = (1 \pm 24) \cdot 10^{-3}$  to  

$$\eta^{(2,0)} = -0.12 \pm 0.21 \quad \text{or} \quad -(2.1 \pm 7.0 \pm 1.0) \cdot 10^{-3} \quad \text{for the Majorana neutrino case.} \quad (\text{E}\cdot 1)$$

Here, the former  $\eta^{(2,0)} = -0.12 \pm 0.21$  is reported by Derenzo<sup>1)</sup> from his analysis of the  $e^+$  energy spectrum. The theoretical expression he used is identical to our  $N_{20}(x)$  in Eq. (2.24). On the other hand, the latter is obtained by Danneberg et al.<sup>2)</sup> through their restricted analysis of the transverse polarization  $P_{T1}(x, \theta = \pi/2)$  of  $e^+$ . Their approximated theoretical expression is the same as ours under the assumption  $\rho^{(2,0)}(x) = 0$ , because they use the one-parameter fitting by assuming  $\rho_M = 0.75$  (i.e.,  $\rho^{(2,0)} = 0$ ). Our expression of  $P_{T1}$  in the  $(s, t, u) = (2, 0, 6)$  case is expressed without any approximation as

$$P_{T1}(x, \theta = \pi/2) = \frac{P_\mu R^{(2,0)}(x)}{D^{(2,0,6)}(x, \theta = \pi/2)}, \quad (\text{E}\cdot 2)$$

where

$$R^{(2,0)}(x) = -x_0(1-x)(1-14\rho^{(2,0)}) - 2(x-x_0^2)\eta^{(2,0)}, \quad (\text{E}\cdot 3)$$

$$D^{(2,0,6)}(x, \theta = \pi/2) = (3x - 2x^2 - x_0^2) + 2(3x - 4x^2 + x_0^2)\rho^{(2,0)} + 6x_0(1-x)\eta^{(2,0)}. \quad (\text{E}\cdot 4)$$

Note that our expression of  $P_{T1}$  in the  $(s, t, u) = (0, 0, 0)$  case is given in Eq. (A.12) in Appendix A.

The data  $\eta^{(2,0)} = (1 \pm 24) \cdot 10^{-3}$  that we cited in our paper is that reported by the Particle Data Group<sup>3)</sup> as an average over the values of  $\eta$  obtained by different experiments. This citation is not appropriate, because some of them are derived from the data on  $P_{T1}(x, \theta)$  by using theoretical expressions different from our  $R^{(2,0)}(x)$  in Eq. (E.3).

### Acknowledgements

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### References

- 1) S. E. Derenzo, Phys. Rev. **181** (1969), 1854.
- 2) N. Danneberg et al., Phys. Rev. Lett. **94** (2005), 021802.
- 3) For general review, see Particle Data Group (Review: W. Fetscher and H. J. Gerber), J. of Phys. G **33** (2006), 440.