Erratum: Generalized mass ordering degeneracy in neutrino oscillation experiments [Phys. Rev. D 94, 055005 (2016)]

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Note that flavor evolution in oscillation experiments is only sensitive to differences of the diagonal elements of the Hamiltonian. Therefore, Eq. (10) should be replaced by the more general expression

$$(\epsilon_{ee} - \epsilon_{\mu\mu}) \rightarrow -(\epsilon_{ee} - \epsilon_{\mu\mu}) - 2,$$
$$(\epsilon_{\tau\tau} - \epsilon_{\mu\mu}) \rightarrow -(\epsilon_{\tau\tau} - \epsilon_{\mu\mu}),$$
$$\epsilon_{\alpha\beta} \rightarrow -\epsilon_{\alpha\beta}^* \quad (\alpha \neq \beta).$$

Indeed, the degeneracy can also be realized for zero ϵ_{ee}, shifting the (-2)-term to the $\mu\mu$, $\tau\tau$ entries in the potential. In the above analysis including CHARM data we have implicitly assumed $\epsilon_{\mu\mu} \approx \epsilon_{\tau\tau} \approx 0$. The assumption $\epsilon_{\mu\mu} \approx 0$ is motivated by strong limits from NuTeV [1], which should apply under the assumptions of heavy mediator particles as relevant for CHARM. Since oscillation experiments constrain $\epsilon_{\tau\tau} - \epsilon_{\mu\mu} \approx 0$ [2], the combination of oscillation and NuTeV data implies $\epsilon_{\tau\tau} \approx 0$ as well. We have performed a detailed study of the generalized mass ordering degeneracy using a combination of oscillation plus scattering data in Ref. [3]. In general, in order to exclude the degeneracy we need data from scattering experiments on both electron-neutrino as well as muon-neutrino NC scattering.

The last sentence of the abstract should be replaced by: "The degeneracy requires order-one corrections from NSI to the NC neutrino–quark interaction and can be tested in neutrino–nucleus NC scattering experiments." The third sentence in the conclusions should be replaced by "It requires NSI comparable in strength to weak interactions."

[1] G. P. Zeller *et al.* (NuTeV Collaboration), Phys. Rev. Lett. **88**, 091802 (2002); **90**, 239902(E) (2003).
[2] M. C. Gonzalez-Garcia and M. Maltoni, J. High Energy Phys. 09 (2013) 152.
[3] P. Coloma, P. B. Denton, M. C. Gonzalez-Garcia, M. Maltoni, and T. Schwetz, arXiv:1701.04828.