Erratum: Dimensional change of the quadrupole order in pseudospin- $\frac{1}{2}$ pyrochlore magnets under magnetic field in the [111] direction [Phys. Rev. B **98, 144410 (2018)]**

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We have become aware of an error in Eq. (A1) in the published paper. It should read

$$|\pm 1\rangle_D = A|\mp 4\rangle \pm B|\mp 1\rangle + C|\pm 2\rangle \mp D|\pm 5\rangle.$$

This is an exchange of the ground doublet states $|\pm 1\rangle_D$, which is needed to use the same phases $\phi_{r,r'}$ of Eq. (1) as those of Ref. [1]. It affects three signs of Eqs. (A2) and (A3) as follows:

$$\begin{aligned} J_x &= J_y = 0, J_z = -(4A^2 + B^2 - 2C^2 - 5D^2)\sigma^z, \\ \frac{1}{2}[3J_z^2 - J(J+1)] &= 3A^2 - \frac{39}{2}B^2 - 15C^2 + \frac{33}{2}D^2, \\ \frac{\sqrt{3}}{2}[J_x^2 - J_y^2] &= \left(-\frac{21\sqrt{3}}{2}B^2 + 9\sqrt{10}AC\right)\sigma^x, \\ \frac{\sqrt{3}}{2}[J_xJ_y + J_yJ_x] &= -\left(-\frac{21\sqrt{3}}{2}B^2 + 9\sqrt{10}AC\right)\sigma^y, \\ \frac{\sqrt{3}}{2}[J_zJ_x + J_xJ_z] &= -\left(3\sqrt{30}BC + 9\sqrt{\frac{33}{2}}AD\right)\sigma^x, \\ \frac{\sqrt{3}}{2}[J_yJ_z + J_zJ_y] &= -\left(3\sqrt{30}BC + 9\sqrt{\frac{33}{2}}AD\right)\sigma^y, \end{aligned}$$

and the charge density of the quadrupole orders shown in Fig. 1. A corrected version of Fig. 1 is shown below. These errors do not affect any other results and conclusions of the paper.

FIG. 1. Corrected Fig. 1.

[1] S. Onoda and Y. Tanaka, *Phys. Rev. B* **83**, 094411 (2011).