Erratum: Topological bulk lasing modes using an imaginary gauge field [Phys. Rev. Research 3, 033042 (2021)]

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We have noted some errors in this paper. These are only typographical errors in equations and do not affect the results obtained.

Equation (18) in our original paper should read

$$\tilde{H}_{I\leftarrow J}^{\dagger}\psi_{I,0}^{(i)} + r_i\tilde{H}_{J\rightarrow I}^{\dagger}\psi_{I,0}^{(i)} = 0.$$

In addition, the sizes and the explicit expressions of the coupling matrices were not correctly typed in. The sizes of the coupling matrices $H_{I\leftarrow J}$ and $H_{J\rightarrow I}$ should be $(N_s \times N_s')$ where N_s and N_s' are the number of sites in the I and J lattices, respectively.

For the two-dimensional (2D) kagome lattice, the Hermitian coupling matrices should be written as

$$\tilde{H}_{I\leftarrow J}^{\dagger} = H_{I\leftarrow J}^{\dagger} = \begin{pmatrix} t_1 & t_1 & 0 & \cdots & \cdots & \cdots \\ \cdots & 0 & t_1 & t_1 & 0 & \cdots \\ \cdots & \cdots & \cdots & \cdots & \cdots & \cdots \\ \cdots & \cdots & \cdots & \cdots & 0 & t_1 \end{pmatrix},$$

and

$$\tilde{H}_{J\rightarrow I}^{\dagger} = H_{J\rightarrow I}^{\dagger} = \begin{pmatrix} t_2 & 0 & \cdots & \cdots & \cdots & \cdots \\ 0 & t_2 & t_2 & 0 & \cdots & \cdots \\ \cdots & \cdots & \cdots & \cdots & \cdots & \cdots \\ \cdots & \cdots & \cdots & 0 & t_2 & t_2 \end{pmatrix},$$

whereas, for the non-Hermitian case, they should read

$$\tilde{H}_{I\leftarrow J}^{\dagger} = \begin{pmatrix} t_1e^{h'} & t_1e^{h''} & 0 & \cdots & \cdots & \cdots \\ \cdots & 0 & t_1e^{h'} & t_1e^{h''} & 0 & \cdots \\ \cdots & \cdots & \cdots & \cdots & \cdots & \cdots \\ \cdots & \cdots & \cdots & \cdots & 0 & t_1e^{h'} \end{pmatrix},$$

and

$$\tilde{H}_{J\rightarrow I}^{\dagger} = \begin{pmatrix} t_2e^{-h'} & 0 & \cdots & \cdots & \cdots & \cdots \\ 0 & t_2e^{-h''} & t_2e^{-h'} & 0 & \cdots & \cdots \\ \cdots & \cdots & \cdots & \cdots & \cdots & \cdots \\ \cdots & \cdots & \cdots & 0 & t_2e^{-h''} & t_2e^{-h'} \end{pmatrix}.$$

For the Lieb lattice described in the Appendix, Sec. 1, the Hermitian coupling matrices should be as follows:

$$\tilde{H}_{I\leftarrow J}^{\dagger} = H_{I\leftarrow J}^{\dagger} = \begin{pmatrix} t_3 & 0 & \cdots & \cdots & \cdots & \cdots \\ \cdots & 0 & t_3 & 0 & \cdots & \cdots \\ \cdots & \cdots & \cdots & \cdots & \cdots & \cdots \\ \cdots & \cdots & \cdots & \cdots & 0 & t_3 \end{pmatrix},$$

and

$$\tilde{H}_{J\rightarrow I}^{\dagger} = H_{J\rightarrow I}^{\dagger} = \begin{pmatrix} t_4 & 0 & \cdots & \cdots & \cdots & \cdots \\ \cdots & 0 & t_4 & 0 & \cdots & \cdots \\ \cdots & \cdots & \cdots & \cdots & \cdots & \cdots \\ \cdots & \cdots & \cdots & \cdots & 0 & t_4 \end{pmatrix},$$

whereas the non-Hermitian ones should be as follows:

$$\tilde{H}^{\dagger}_{I\leftarrow J} = \begin{pmatrix} t_3 e^{h_2} & 0 & \cdots & \cdots & \cdots & \cdots \\ \cdots & 0 & t_3 e^{h_2} & 0 & \cdots & \cdots \\ \cdots & \cdots & \cdots & \cdots & \cdots & \cdots \\ \cdots & \cdots & \cdots & \cdots & 0 & t_3 e^{h_2} \end{pmatrix},$$

and

$$\tilde{H}^{\dagger}_{J\rightarrow I} = \begin{pmatrix} t_4 e^{-h_2} & 0 & \cdots & \cdots & \cdots & \cdots \\ \cdots & 0 & t_4 e^{-h_2} & 0 & \cdots & \cdots \\ \cdots & \cdots & \cdots & \cdots & \cdots & \cdots \\ \cdots & \cdots & \cdots & \cdots & 0 & t_4 e^{-h_2} \end{pmatrix}.$$

For the 2D Su-Schrieffer-Heeger lattice described in the Appendix, Sec. 2, the Hermitian coupling matrices in Eqs. (A6) and (A7) should be as follows:

$$\tilde{H}^{\dagger}_{I\leftarrow J} = H^{\dagger}_{I\leftarrow J} = \mathrm{diag}(t_1, t_1, \ldots, t_1, t_1),$$

and

$$\tilde{H}^{\dagger}_{J\rightarrow I} = H^{\dagger}_{J\rightarrow I} = \mathrm{diag}(t_2, t_2, \ldots, t_2, t_2),$$

whereas their non-Hermitian counterpart in Eqs. (A11) and (A12) should read

$$\tilde{H}^{\dagger}_{I\leftarrow J} = \mathrm{diag}(t_1 e^{h_2}, t_1 e^{h_4}, \ldots, t_1 e^{h_2}, t_1 e^{h_4}),$$

and

$$\tilde{H}^{\dagger}_{J\rightarrow I} = \mathrm{diag}(t_2 e^{-h_2}, t_2 e^{-h_4}, \ldots, t_2 e^{-h_2}, t_2 e^{-h_4}).$$