Erratum: Optomagnonic Whispering Gallery Microresonators **[Phys. Rev. Lett. 117, 123605 (2016)]**

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This is to correct an incorrect unit in Fig. 4(d) in the main text. The power shown in the y axis should have a unit of (pW) instead of (nW) for both the main panel of Fig. 4(d) and its inset. The corrected figure (Fig. 4 in the main text of the original paper) is shown in Fig. 1 in this erratum. Accordingly, the conversion efficiencies discussed on page 4 (below Fig. 4) should be modified as follows.

The fitted raw power (system) conversion efficiency is 5×10^{-11} , corresponding to a microwave-to-optical photon number ratio of 1.7×10^{-15} . An internal power conversion efficiency can be estimated as 6×10^{-6} after taking various insertion losses into consideration, which corresponds to a magnon-to-optical photon number ratio of 2×10^{-10} . From the measurement results, the intrinsic magnon-photon coupling strength can be estimated as $g/2\pi = 0.33$ Hz. With $30 \mu\text{W}$ optical power to the device (in the waveguide), the coupling strength is enhanced to $G/2\pi = 2.3$ kHz, corresponding to a cooperativity $C = G^2/(\kappa_m \times \kappa_o) = 5.4 \times 10^{-10}$.

The reduced conversion efficiency can still be compensated by improvement strategies outlined in the main text. The Supplemental Material needs to be modified accordingly: (i) in Sec. IV A (page 2), detected optical power (at the detector, including output insertion losses): 16.5 pW; (ii) in Sec. IV C (page 4), Eq. (12): $=4.28 \text{ (rad/s)}^2$, Eq. (13): $g/2\pi \geq 0.33$ Hz, and Eq. (14): $C = (g^2/\kappa_m \kappa_b)|\langle a \rangle|^2 \geq 5.42 \times 10^{-10}$.

FIG. 1. (a) Optical pump transmission and the generated optical signal as a function of pump laser wavelength. The correspondence of the generated optical signal peak and the optical pump resonance dip indicates the satisfaction of the conservation conditions. (b) Microwave reflection and the generated optical signal as a function of the microwave frequency. (c) Optical spectrum of the device output when the triple-resonance condition is satisfied. The TM and TE components of the output light are separated by a polarization beam splitter. The TM component corresponds to the direct transmission of the pump light, while the TE component contains the scattered sideband. (d) Power dependence of the sideband on the input microwave power P_{MW} . Inset: extracted sideband power as a function of the input microwave power.