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SUPPLEMENTARY MATERIAL

The micromagnetic simulations on a 2×2 unit array with the 30 nm thick elements has been performed, as depicted by the inset of Fig.S1 (a), with a $(2, 2, 0)$ periodic boundary condition. Please note that the elements localised along the edge only has half width of the island as a result of the periodic boundary condition used. Other simulation parameters are same as described in the main text.

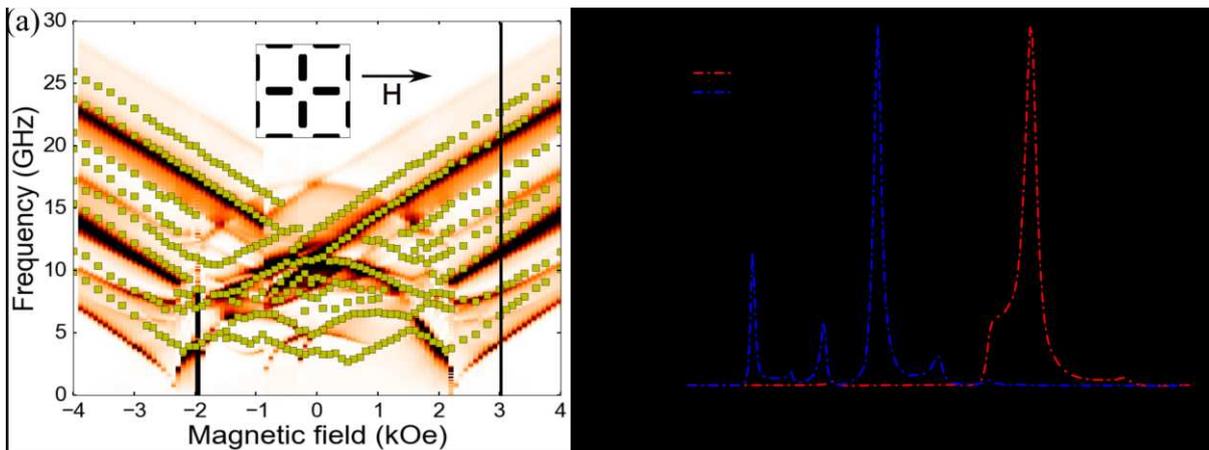


FIG. S1. (a) Comparison of the frequencies of the SW modes of the 30 nm thick elements as a function of magnetic field between BLS results (yellow squares) and the simulation of a 2×2 units (12 elements) array. The intensity of the spin-wave modes is displayed by the color contour shadings where dark shading indicates the maximum intensity and the light yellow to white colors signify the minimum intensity. (b) Line scan of the simulated SW mode intensity at the applied field of +3 kOe indicated by the vertically black line in (a). Intensities associated with modes on the horizontal and vertical islands are also indicated. The resonance intensity is calculated as the square of the time Fourier transformed calculation of the simulated m_z component.