## Microscopic Investigation of Hysteresis Loss of CoFeB/Pd Multilayers

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We have investigated microscopic magnetic saturation process for a series of  $[CoFeB (4-Å)/ Pd (10-Å)]_n$  (n = 2, 4, 8 and 16) multilayers with a perpendicular magnetic anisotropy by means of magneto-optical Kerr microscopy [1,2,3]. Under a cyclic external filed during the major hysteresis loop measurement, we find that the magnetic hysteresis loss shows a strong tendency of logarithmically increasing with respect to the repeat number n of multilayer number. By quantitative analysis of magnetic domain patterns at the nucleation state (represented as black in the following figure), it has found that the magnetic domain areas was found to increase exponentially with respect to n, compared to the domain area for the case of n = 2 sample.



Fig. 1. The magnetic hysteresis loops of samples with exponentially increased multi-layer numbers.

## References

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