
Symposium (Oral) | Symposium | Frontier of the studies weaved by light and spins

[6p-C18-1~7]Frontier of the studies weaved by light and spins

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Wed. Sep 6, 2017 1:15 PM - 5:00 PM C18 (C18)

△：奨励賞エントリー

▲：英語発表

▼：奨励賞エントリーかつ英語発表

空欄：どちらもなし

3:00 PM - 3:30 PM

[6p-C18-4]Accumulative Magnetic Switching of Ultrahigh-Density Recording Media by Circularly Polarized Light

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Keywords:All optical magnetic switching, FePt media

Here we show that for granular FePt films designed for ultrahighdensity magnetic recording, the optical magnetic switching by circularly polarized light is an accumulative effect from multiple optical pulses. The measured results can be reproduced by a simple statistical model where the probability of switching a grain depends on the helicity of the optical pulses. We further show the deterministic switching of high-anisotropy materials by the combination of circularly polarized light and modest external magnetic fields, thus, revealing a pathway towards technological implementation.