

# ISOTROPIC TAPE PERFORMANCE WITH MICROGRAP HEADS IN HDDR AND ANALOG MODES



**James U. Lemke**  
**Spin Physics, Inc.**  
**San Diego, CA 92121**

## **ABSTRACT**

High coercivity isotropic tapes recorded with very small head gaps ( $0.2 - 0.3\mu$ ) support magnetic transition densities exceeding 10,000 per millimeter ( $>250$  KFCI) with practical densities of 133 KFCI. The signal is recorded vectorially within the medium with both longitudinal and perpendicular components contributing in-phase fields. Even with very small record gaps, substantial portions of both components in proximity to the head trailing pole are erased by the head field gradient subsequent to the initial record zone.

Comparisons are made between longitudinal and isotropic media with regard to linearity and NPR in analog recording, and NPR in digital recording is examined.