

2002/6/24 Release

Nanoscale visualization of the magnetic-head field distribution - Contributing to the development over 100Gbit/in² class HDD -

Equipment for visualizing magnetic field distribution



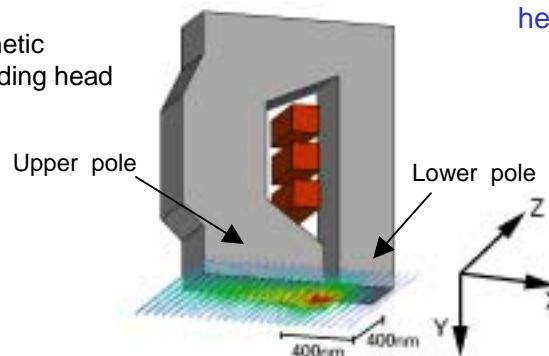
Observation example

- Magnetic field vector distribution

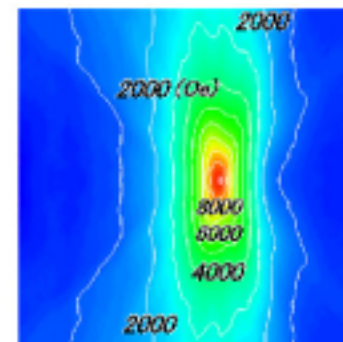
Magnetic recording head

Upper pole

Lower pole



- Contour map of a magnetic field observed from the underside of the head



New measurement technology enabling nanoscale visualization of a magnetic field distribution was developed. When this technology was applied to HDD development, it was possible to observe the magnetic recording field (the magnetic field generated when magnetic information is stored on a disc) within an area of 30nm away from the air-bearing surface of the head for the first time in the world. This technology will contribute significantly speeding-up the development and increasing the reliability of over 100Gbit/inch² (6.45 cm²) class HDD, where the gap between the magnetic head and media will be nanoscale.