

# Thermal Conductivity Anomaly of Bi-2212 in Magnetic Fields

Yoichi Ando and Jun-ichi Takeya

*Central Research Institute of Electric Power Industry, Komae, Tokyo 201, Japan*

Kei Nakamura

*Central Research Institute of Electric Power Industry, Komae, Tokyo 201, Japan, and  
Department of Energy Science, Tokyo Institute of Technology, Nagatsuta, Yokohama 226, Japan*

Aharon Kapitulnik

*E.L. Ginzton Laboratory, Stanford University, Stanford, CA 94305, USA*

## Abstract

Recently, thermal conductivity measurements of Bi-2212 have found an anomaly (appearance of a plateau) in magnetic fields at low temperatures. Although such observation has been intensively discussed in relation to a symmetry change of the superconductivity order parameter, it might be possible that the phenomenon is fundamentally related to the vortex physics. In an effort to clarify the origin of this anomaly, we have measured the thermal conductivity of Bi-2212 with very high resolution both in the field-cooled state and in the zero-field-cooled state, and also in the temperature-sweep runs and in the field-sweep runs.