

## **Professor T. Takahashi -- Development of the World-Highest Resolution Spin-Resolved Photoemission Spectrometer --**

### **-Direct Observation of Spins of Electrons in Materials -**

A research group led by Professor Takashi Takahashi and Assistant Professor Seigo Souma at WPI Advanced Institute for Materials Research, Tohoku University has developed an ultrahigh-resolution spin-resolved photoemission spectrometer, which enables the direct observation of the spin-resolved electronic states of materials with the world-best energy resolution. The newly developed spectrometer would contribute to our better understanding of various novel phenomena caused by electron spins, such as the giant magnetoresistance and the quantum spin Hall effect, leading to the significant development of spintronics devices that have attracted much attention as next-generation, high-speed and low power-consumption electronic devices.

The research result will be published online in Review of Scientific Instruments on September 10, 2010.