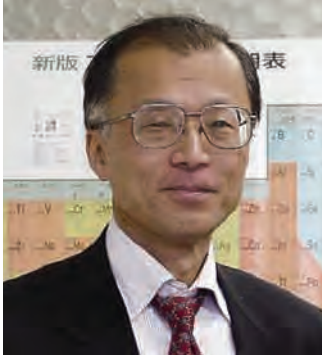


Sadamichi Maekawa / Professor / Institute for Materials Research

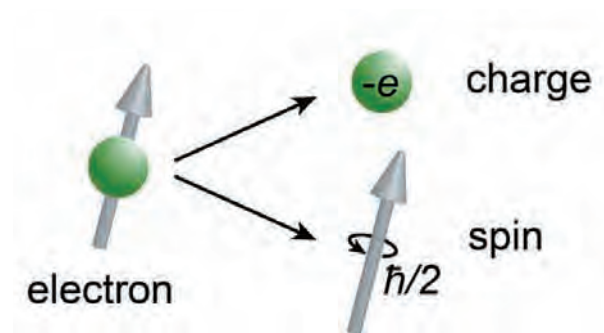
Profile



He was born in 1946 and received his Doctor of Science (Physics) degree from Tohoku University in 1975. He became a Professor at Nagoya University in 1988 and has been a Professor at the Institute for Materials Research, Tohoku University, since 1997. He has won several honors and awards: Humboldt Award (Germany), Magnetics Society of Japan Award, Fellow of American Physical Society and Fellow of Institute Physics (UK). He is the Chair of the Magnetism Commission in the International Union of Pure and Applied Physics (IUPAP). His research field is theory of condensed matter.

Research Activities

He is a condensed matter theorist, whose work is based on real materials and devices, and thus closely related to experiment. He has made a groundbreaking contribution to topics as diverse as spin-dependent transport in magnetic materials and nanostructures, high temperature superconductors, transition metal oxides, and numerical techniques of many-body physics for studying strongly-correlated electron systems. Two examples are the first reproducible demonstration of tunnel magnetoresistance (TMR) in 1982, and the first demonstration of spin-charge separation in strongly-correlated systems in 1996.



In strongly interacting electron systems, an electron falls apart into spin and charge.

Message

There are two kinds of physics; one is to search for elements in nature and the other is to examine the diversity of nature. Condensed matter physics usually falls into the latter category, but it sometimes provides unique elements in complex materials. My research is in the latter and the aim of my research is to study theoretically electronic properties in materials and device application.

One of the mottos of Tohoku University is to emphasize “Practice-Oriented Research and Education” the so-called “Jitsugaku”. In my research, this is to study basic physics and at the same time, to examine its connection to the real world and society.