复旦大学物理系 物质科学报告

Time: 2:00pm, Tuesday, 2019.5.28
Location: Room C108, Jiangwan Physics Building

Muon as a Unique Probe of Dynamical Spin Susceptibility

Ryosuke Kadono

Institute of Materials Structure Sciences (IMSS), KEK

Muon spin rotation/relaxation (μSR) has emerged as a powerful technique in the past decades to investigate the local electronic properties of materials showing magnetism and/or superconductivity. In particular, its unique time window for the observation complementary to other microscopic techniques has brought valuable information in elucidating the microscopic details of quantum magnetism. In this presentation, a vanadium spinel compound LiV_2O_4 is highlighted as a very recent example to which μSR has been applied to address a huge anomaly in the effective electron mass that stands as one of major challenges in the physics of strongly correlated electron systems over 20 years.

Dr. R. Kadono is currently Professor of Muon Science Laboratory, Institute of Materials Structure Sciences (IMSS), KEK, and Professor in The Graduate University for Advanced Studies (Sokendai). He also served as Head of Muon Science Laboratory (2010-2015), and is now Director of Condensed Matter Research Center, IMSS, KEK (2015-present). He earned his B.Sc. (1982), M.Sc. (1984), and Ph.D. (1987) degrees from the University of Tokyo. He was a research associate at Meson Science Laboratory, University of Tokyo (1985–1989) with leave of absence as postdoc in TRIUMF (1988–1989). He was a research fellow at RIKEN (1990–1997). He has worked on application of muon spin rotation/relaxation technique to condensed matter physics, using muon as a probe of electronic properties and as a simulator of hydrogen in matter.