Muon as a Unique Probe of Dynamical Spin Susceptibility

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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$_2$O$_4$ 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.

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