

Recent Studies of Local Excitations in Strongly Correlated Materials

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Making use of the short wave length of x-ray, local excitations probed by inelastic x-ray scattering offer unique insights into the short-range correlated electronic structure. Case studies on strongly correlated materials will be presented in this talk, including dilute magnetic semiconductors, ionic insulators, and transition metal oxides. Also to be presented are recent developments of first-principles theory of kinetic and momentum distribution of local excitations.