

Inelastic x-ray scattering (IXS) has emerged as a powerful probe of the electronic properties of materials over the past years. The presentation provides a review of selected experimental results obtained by IXS with an emphasis on strongly correlated materials, coordination chemistry and high pressure physics. Different physical aspects will be discussed including phonon excitations, dispersive and non dispersive electronic states, mixed valent properties, or local magnetism, all obtained from non-resonant and resonant IXS processes. Finally, perspectives will be drawn especially as for novel IXS instrumentation and new experimental capacities.