Optical excitations in solid materials decay typically on femto- to picosecond time scales due to interactions which lead to a redistribution of the excess energy among the electronic, the lattice, and the spin subsystem, before final dissipation. We perform pump-probe experiments in order to analyze these excitations and the action they generate through their relaxation directly in the time domain. In this talk time- and angle-resolved photo-emission results which probe the excited state with energy and momentum sensitivity on complex materials like high temperature superconductors will be discussed. Furthermore, we investigate spin currents generated in the optically excited state and their influence on the transient magnetization of optically excited ferromagnets. We employ pump-probe experiments where we detect the complex magneto-optical Kerr effect to obtain an effective depth sensitivity in order to monitor these currents. In epitaxial Co films on a metallic substrate spin currents generate a magnetization depth profile with a depletion of spin polarization at the interface. This local depletion competes with thermalization of the electron and spin system which suppresses the magnetization predominantly close to the surface.