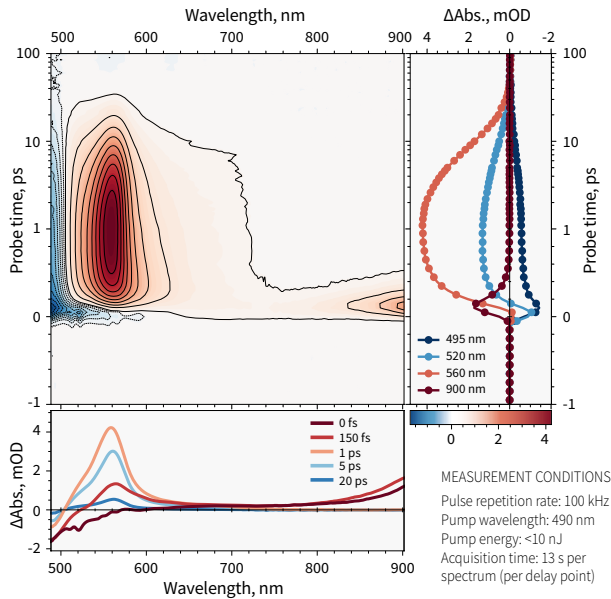


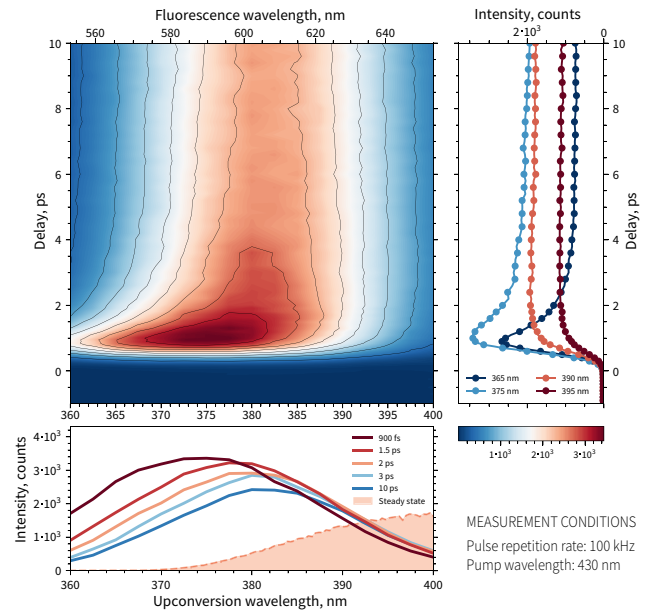
Examples of Spectroscopy Applications

FEMTOSECOND PUMP-PROBE



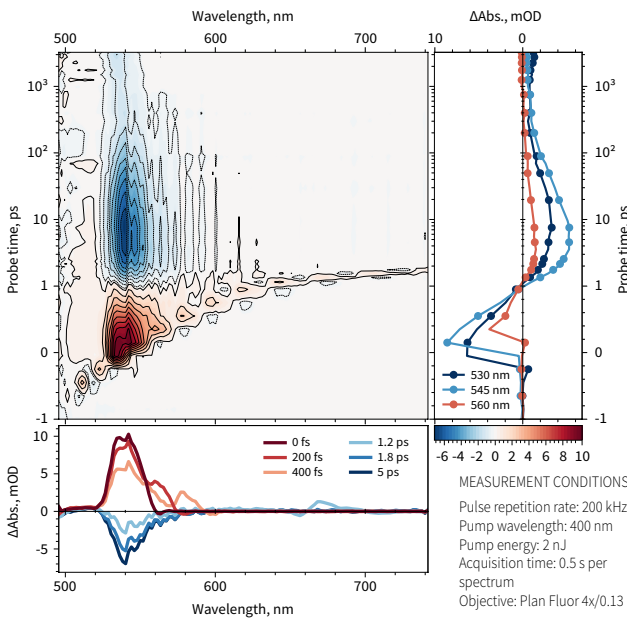
Spectral dynamics of beta-carotene in solution
acquired using HARPIA-TA

FLUORESCENCE UPCONVERSION

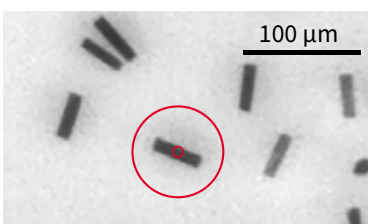


Fluorescence dynamics of DCM laser dye in solution
acquired using HARPIA-TF in fluorescence upconversion mode

FEMTOSECOND PUMP-PROBE MICROSCOPY



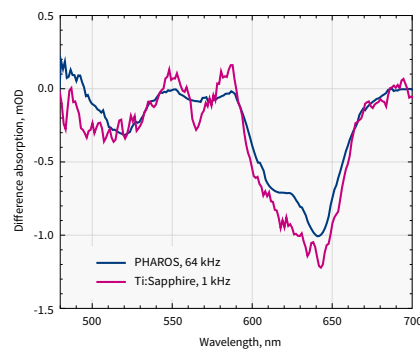
Single perovskite crystallite pump-probe spectral
kinetics, pump at 400 nm



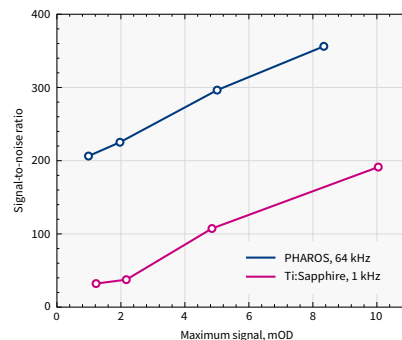
Pump-probe spot
marked by the small
circle

PERFORMANCE AT HIGH REPETITION RATES

The HARPIA spectroscopy system achieves an excellent signal-to-noise ratio at high repetition rate and low energy excitation conditions. The graphs below compare the signal-to-noise ratio (SNR) of difference absorption spectra obtained with a Ti:Sapphire laser operating at 1 kHz and a PHAROS laser operating at 64 kHz with the same acquisition time.



Measured difference
absorption spectra of
CdSe/ZnS
quantum dots
using low- and
high-repetition
rate lasers with 5 s
acquisition time



Best-effort SNRs,
achieved with
HARPIA-TA
spectrometer driven
by a Ti:Sapphire laser
at 1 kHz (magenta) and a PHAROS laser
at 64 kHz (blue)