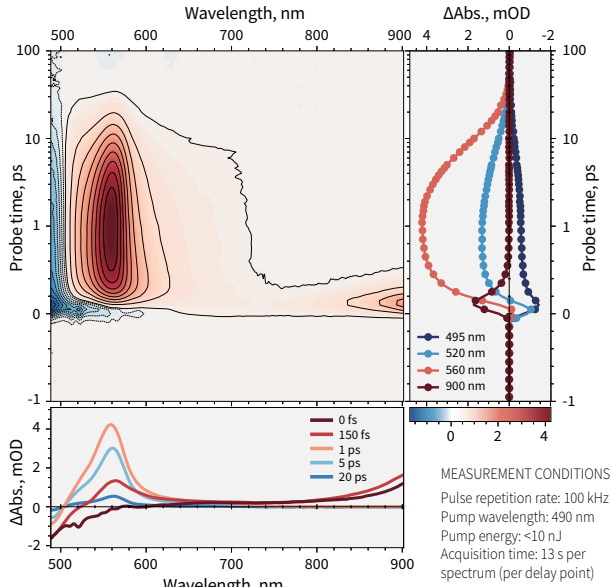


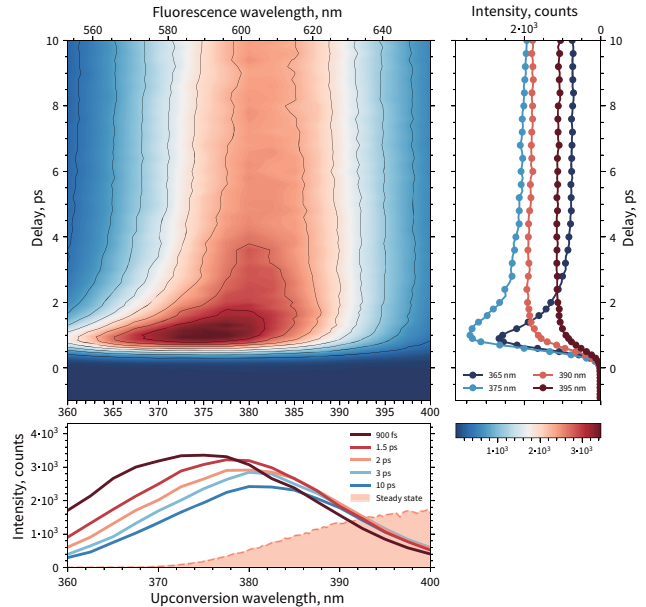
Examples of Scientific Applications

FEMTOSECOND PUMP-PROBE



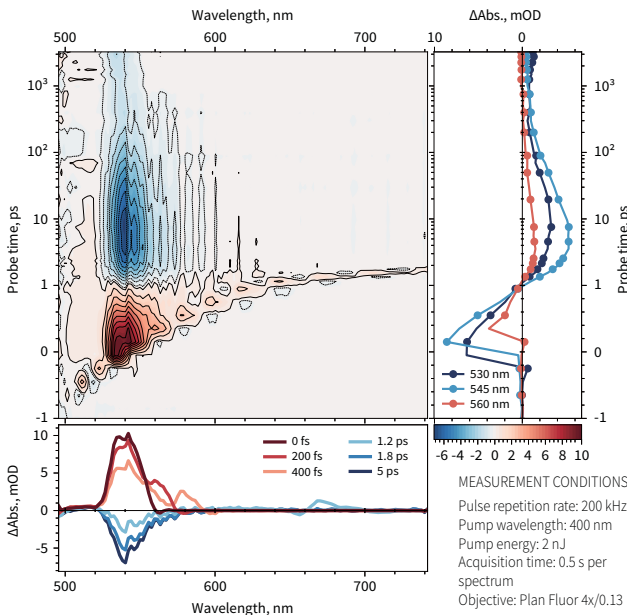
Spectral dynamics of beta-carotene in solution acquired using HARPIA-TA

FLUORESCENCE UPCONVERSION

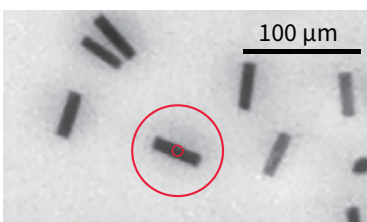


Fluorescence dynamics of DCM laser dye in solution acquired using HARPIA-TF in fluorescence upconversion mode

FEMTOSECOND PUMP-PROBE MICROSCOPY



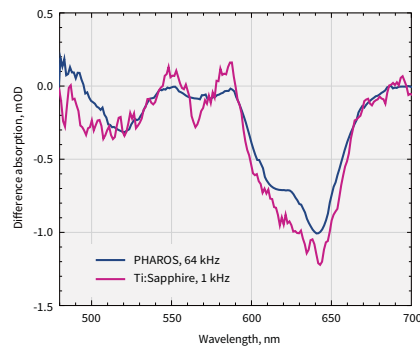
Single perovskite crystallite pump-probe spectral kinetics, pump at 400 nm



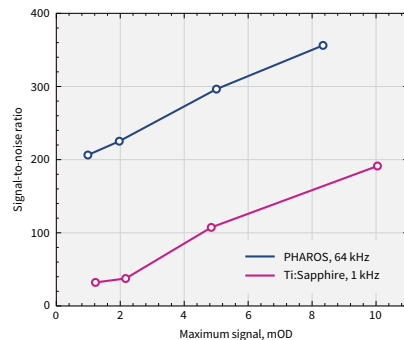
Pump-probe spot marked by the small circle

HARPIA 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 SNR of difference absorption spectra obtained with a Ti:Sapphire laser running at 1 kHz and a PHAROS laser running 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 signal-to-noise ratios, achieved with HARPIA-TA spectrometer driven by a Ti:Sapphire laser operating at 1 kHz (red) and a PHAROS laser operating at 64 kHz (blue)