FemtoCARS Unit

An inherently synchronized wavelength extension unit for two wavelength measurements by CARS spectroscopy or 3D CARS microscopy

System applications:
- CARS spectroscopy
- CARS 3D microscopy
- SRS 3D microscopy

The FemtoCARS laser unit synchronizes optical pulses of our FemtoRose 100 TUN NoTouch tuneable Ti:sapphire laser (or any other femtosecond pulse Ti:sapphire laser) and our femtosecond pulse Femto-Fybre Yb fiber amplifier. The laser system along with a Zeiss Axio Examiner LSM 7 MP microscope (product of Carl Zeiss) can be used for high spatial resolution 3D CARS or SRS microscopy.

System layout:

System specifications:

Output Power (pump): ~ 30-50% of the Ti:sapphire pump laser power (adjustable)
Wavelength Range (pump): 680-980 nm
Output Power (Stokes): ~ 300mW (adjustable)
Stokes Wavelength: 1030 nm
Pulse Duration (pump): ~180 fs
Pulse Duration (Stokes): ~200 fs
Polarization: Vertical
Physical Dimension (CARS Unit): 72 x 38 x 24 cm³