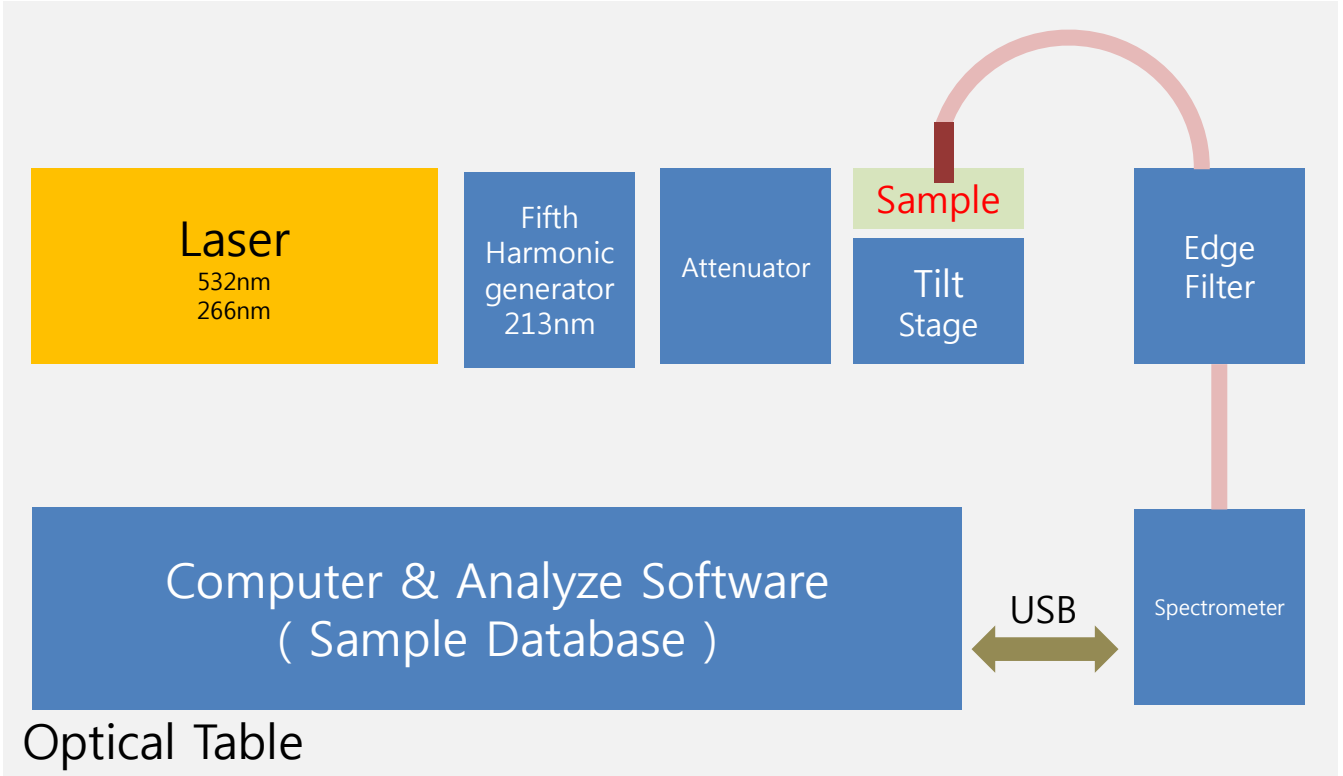


UV Raman Analyzer System_ait-URS213

AIT-URS213 System Block-diagram



Product note

AIT-URS213 제품은 1064nm의 Nd:YAG Laser를 Pump Laser로 사용하여 532nm와 266nm의 레이저 Beam을 생성하며 Fifth harmonic generator를 이용하여 213nm Laser Beam을 출력한다. 1064nm, 532nm, 213nm 또는 266nm Laser를 Excitation Source로 액체 및 고체의 샘플에 입사하여 Scattering된 Beam을 CCD detector로 광 특성을 Monitoring하여 샘플이 갖고 있는 물성의 광 특성을 정량 분석을 통하여 물성을 확인하는 시스템입니다.

또한 물성의 Data Base를 이용하여 실험에서 추출된 광 반응 특성의 Data를 비교하여, 반응물질의 검출과 새로운 물질의 특성을 Data Base화 할 수 있습니다. Predisphersor를 이용하여 Laser Beam의 Rayleigh Scattering을 차단 기능을 통하여 여러 종류의 Probe 사용의 필요가 없는 장점이 있다.

Features

- Dual wavelength is available
- Store CAS registry numbers and QA detail
- Advanced spectral analysis

1. Laser

- Available Wavelength : 1064 nm, 532 nm, 355 nm, 266 nm
- Pulse duration, ns 1064 nm / 532 / 355 / 266 nm 6–7 / 6–7 / 5–6 / 5–6
- Pulse repetition rate, Hz 1–10
- Beam divergence, mrad ≤ 0.8
- Beam diameter, mm ≤ 8.0
- Jitter**, ns ± 1.0
- Pointing stability, mrad 0.1
- Energy stability*** (1064 nm), % ± 3.0

Fifth Harmonic Generator

- Energy, mJ 213nm : 25mJ
- Pulse duration (FWHM) .ns : 12-14
- Power requirements : single phase 220+/- 20V, 50-60Hz, 20W
- Pulse repetition rate. Hz : 1 – 10
- Beam Diameter, mm : 8

2. Spectrometer

- Wavelength range : Grating dependent
- Optical resolution : $\sim 0.14\text{-}7.7$ nm (FWHM)
- Signal-to-noise ratio : 1000:1 at full signal
- A/D resolution : 16 bit
- Dark noise : 3 RMS counts
- Dynamic range : 7.5×10^9 (system), 25000:1 for a single acquisition
- Integration time : , 8 ms - 15 minutes
- Stray light : ,0.08% at 600 nm; 0.4% at 435 nm
- Corrected linearity : $>99\%$
- Grating options : Multiple grating options - UV through shortwave NIR
- External Trigger : YES

3. Predispersor (Edge filter)

- Tuning Range : 180nm ~ 1100nm
- Focal Length (2X) 200 mm
- Aperture Ratio f/4.2
- Wavelength Range 185 - 1000 nm
- Dispersion* 4 nm/mm
- Resolution* 0.15-nm
- Accuracy ± 0.06 nm Vis (measured)
- ± 0.5 nm UV-Vis-IR
- Repeatability ± 0.05 nm UV-Vis-IR (measured)
- Stray Light (measured) $< 6.4 \times 10^{-4}$ (UV NPL procedure)
- $< 5.0 \times 10^{-4}$ (UV-Vis NPL procedure)
- $< 1.3 \times 160\text{-}6, 10$ nm from 632.8 nm
- (100 um slits)

DUV Laser & Fifth Harmonic Generator : Nd:YAG

Available Wavelength : 1064 nm, 532 nm, 355 nm, 266 nm
Pulse duration, ns 1064 nm / 532 / 355 / 266 nm 6-7 / 6-7 / 5-6 / 5-6
Pulse repetition rate, Hz 1-10
Beam divergence, mrad ≤ 0.8
Beam diameter, mm ≤ 8.0
Jitter**, ns ± 1.0
Pointing stability, mrad 0.1
Energy stability*** (1064 nm), % ± 3.0
Size L x W x H, mm (Weight, kg) Laser head
Power supply
Cooling system



DUV Attenuator



Edge filter



UV Spectrometer



Accessory

