



## Nitrogen & Dye Lasers

ELEMENTAL ANALYSIS
FLUORESCENCE
GRATINGS & OEM SPECTROMETERS
OPTICAL COMPONENTS
FORENSICS
PARTICLE CHARACTERIZATION
RAMAN
SPECTROSCOPIC ELLIPSOMETRY
SPR IMAGING

Tunable nanosecond pulsed lasers for research and teaching



Since their commercial introduction in the mid-1970's, nitrogen and dye lasers have established themselves as powerful tools for applications that require high-energy, short pulse, monochromatic radiation. Unlike most lasers, the nitrogen laser offers simple, trouble-free operation at an affordable price, and it is an excellent source for UV light with high peak power.

OBB dye lasers are very easy to use and maintain. After placing the dye in the cuvette holder, all you have to do is set the desired wavelength on the digital readout. There are no optical elements that ever need to be adjusted to get this laser to operate throughout its entire tuning range. The dye is contained in 1 cm laser cuvette, and there is no need for stirring or mixing of the dye. No dye laser is easier to use than this one! For computer control of the output wavelength, a motorizing option can be purchased.

OBB has been involved in the development of commercial nitrogen and dye lasers since 1987, and this technology has undergone continual improvement since. OBB has pioneered a whole new laser technology that provides high power and trouble-free operation at a low price. There simply is no other tunable pulsed nanosecond laser commercially available that is this powerful or easy to use!

### Applications

- Fluorescence Lifetimes
- Time Resolved Spectroscopy
- PChem Teaching Labs
- Photochemistry
- Pump Probe
- MALDI TOF-MS
- Caged Compound Release
- Detector Calibration

### Quick Facts

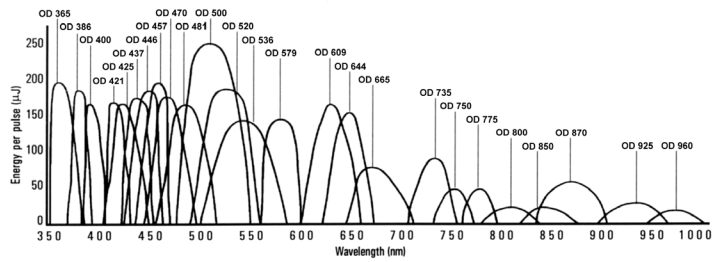
- Unlike most lasers, the nitrogen laser offers simple, trouble-free operation at an affordable price!
- For experiments in the life science laboratory, nitrogen and dye lasers can easily be fiber-optically coupled to a microscope.
- Nitrogen lasers are excellent sources for general spectroscopy, laser-induced fluorescence and photochemistry.
- Nitrogen pumped dye lasers are tunable over a wide spectral range from 360 to 990 nanometers. Dye lasers equipped with frequency doublers are even tunable in the deep UV region from 235 to 345 nm.

### Laser Models

- **Model OL-4300 Nitrogen Laser** — Our pulsed gas laser sets the industry standard. It is extremely reliable, economical and easy to use, and it requires only an inexpensive tank of nitrogen gas to operate—no costly cartridges to replace, no frequent servicing or fine-tuning.
- **Model OL-401 Dye Laser** — High power output, continuously tunable from 360 to 900 nm, at an economical price.
- **Model OL-402 Dye Laser** — High power and ultra-high resolution tunable output.
- **Model OL-403 Frequency Doubler** — Extend laser output into the deep UV region, from 235 to 345 nm.

## Model OL-401 High Intensity Dye Laser

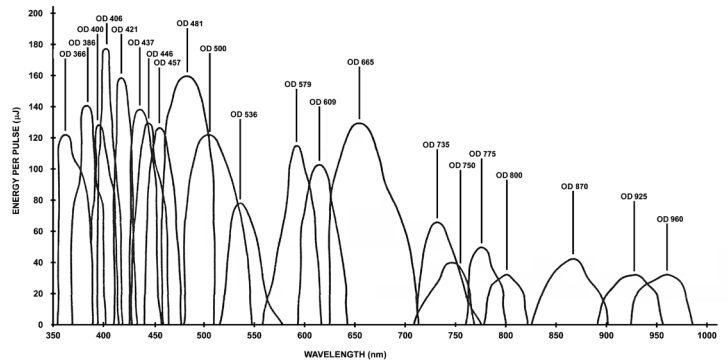
OBB's OL-401 Dye Laser is a single stage Littrow configuration cavity, providing continuously tunable output from 360 to 900 nm. The pulse energy at 500 nm is 250 microjoules. With a pulse width of 1 nanosecond and a bandwidth of 1 to 3 nm, OBB's OL-401 is perfect for general spectroscopy.



OL-401 Tuning Curve

## Model OL-402 High Resolution Dye Laser

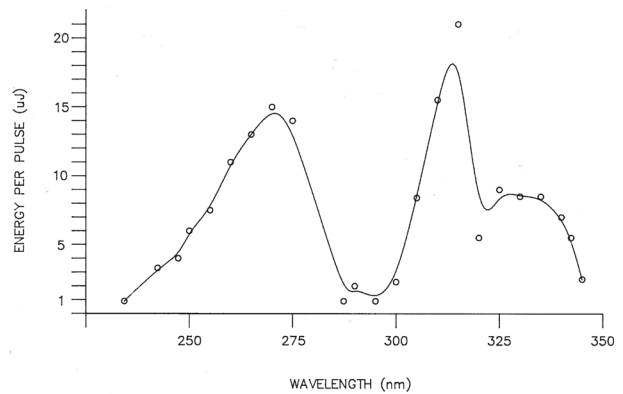
OBB's OL-402 Dye Laser incorporates a grazing incident design laser cavity for high resolution followed by a secondary amplifier cell to boost the power. The result is a very narrow 0.04 nanometer output from 360 to 900 nm, a pulse width of 1 nanosecond, and an energy of 220 microjoules per pulse at 500 nm. With the addition of OBB's OL-403 Frequency Doubler, tunable wavelengths from 235 to 345 nm can be attained.



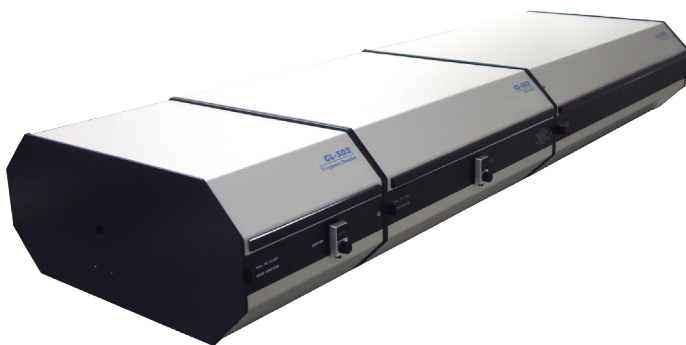
OL-402 Tuning Curve

## Model OL-403 Frequency Doubler

OBB's OL-403 Frequency Doubler is used in conjunction with the OL-4300 Nitrogen Laser and the OL-402 High Resolution Dye Laser. The single Beta Barium Borate (BBO) crystal allows continuous tuning in the wavelength range from 235 to 350 nm without the inconvenience of changing crystals.



OL-403 Tuning Curve



**OPTICAL BUILDING BLOCKS**



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