

# High Repetition Rate and high Pulse Energy INNOSLAB Lasers - Ideal Pumping Sources for Dye Lasers

## Frequency doubled INNOSLAB laser IS8II-E

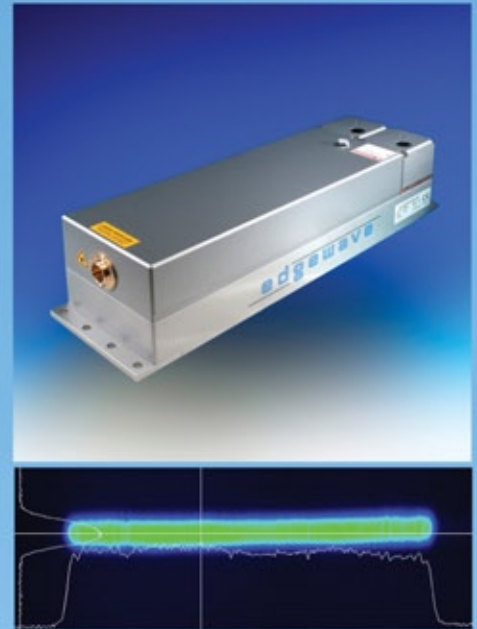
	Nd:YLF	Nd:YAG
pulse energy	12 mJ @ 1kHz	4 mJ @ 10kHz
pulse length	7 ns	9 ns

## Frequency tripled INNOSLAB laser IS8III-E with Nd:YLF

pulse energy @ 1 kHz	4 mJ
pulse length	< 10 ns

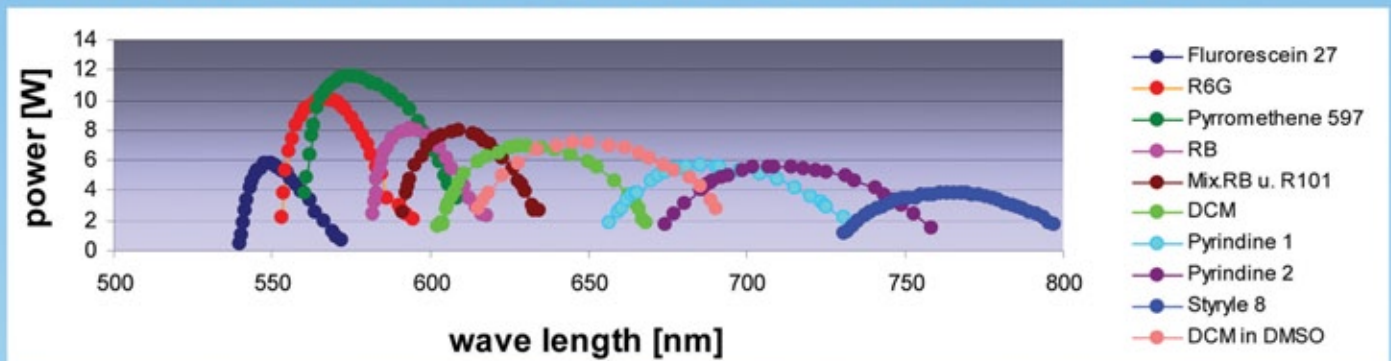
## Favourable features for pumping of dye lasers

- 1D top-hat intensity profile: ideal matching of dye volume, homogeneously pumping and no localized saturation
- short pumping pulse length: low pumping threshold, short dye laser pulse length and high efficiency by nonlinear frequency conversion
- high repetition rate: high data acquisition speed



1D Top-hat Intensity Profile

## Dye laser pumped by: IS8II-E with Nd:YAG, 40W @ 10kHz and 532nm (Courtesy of Sirah)



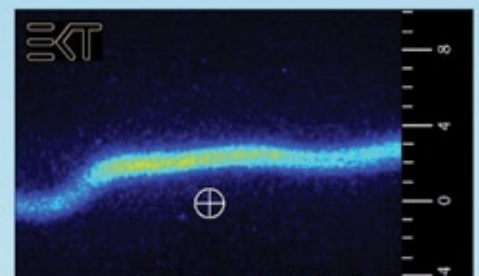
## Dye laser pumped by IS8III-E, 3.6W @ 1kHz and 349nm (Courtesy of Sirah)

	Output power	Wavelength	Pulse Frequency
Coumarin 47	550mW	460nm	1 kHz
SHG	82mW	230nm	1 kHz
Exalite 411	520mW	414nm	1 kHz

## Application of Dye Laser powered by INNOSLAB Laser – High Speed OH-PLIF (Laser induced Fluorescence)

### OH-PLIF @ 5kHz of TO Jet Burner

- Extinction
- 5,000fps (with HS-IRO)
- Excitation 283nm
- Emission 308nm



Courtesy of EKT TU Darmstadt