

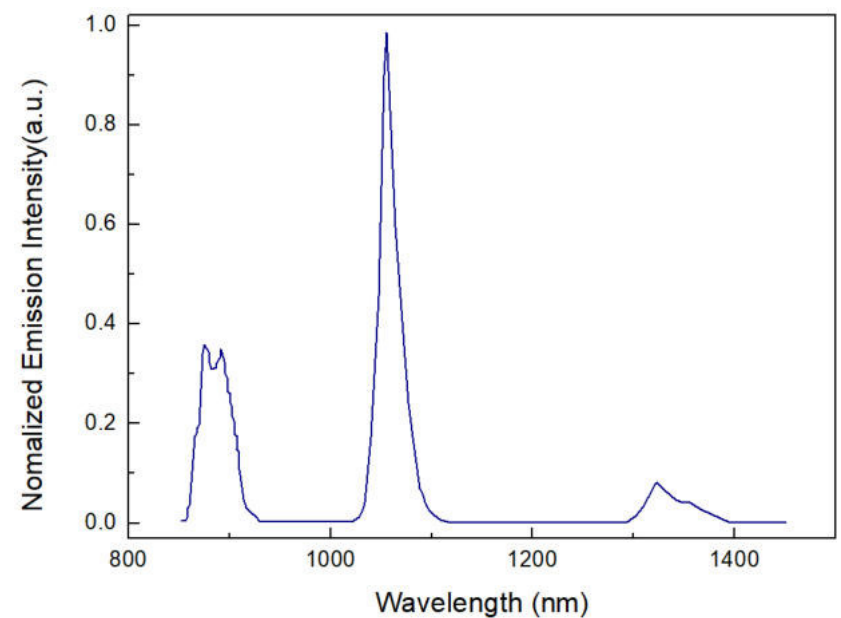
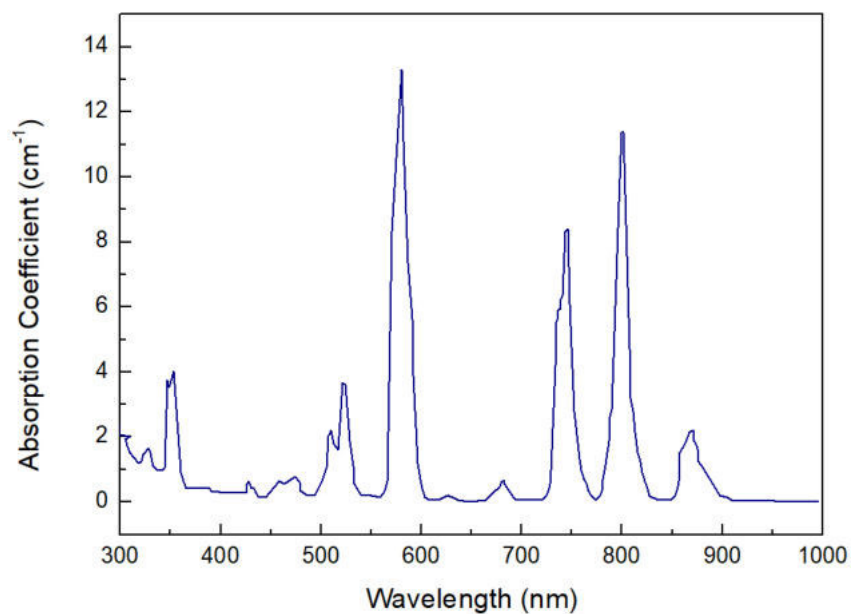
N41 Nd:Glass



DESCRIPTION

N41 Neodymium-doped phosphate glass has high stimulated emission cross section, low nonlinear refractive index and good thermal characteristics is specially for high power laser facilities. N41 has a lower refractive index than N21 and N31.

SPECTRA



PARAMETER

Laser Specifications

Nd ₂ O ₃ (wt%)	4.6
Nd ³⁺ conc. (10 ²⁰ ions/cm ³)	4.3±0.1
Cross section for stimulated emission	(10-20cm ²) 3.9±0.1
Lifetime at 1053nm (μsec)*	≥370(Nd ₂ O ₃ : 0.5wt%)
	≥360(Nd ₂ O ₃ : 1.2wt%)
	≥315(Nd ₂ O ₃ : 3.5wt%)
	≥310(Nd ₂ O ₃ : 4.6wt%)
Effective bandwidth (nm)	25.5
Fluorescence peak wavelength (nm)	1053
	≤0.0015(1053nm)
	≤0.25(400nm)
Absorption coefficient (cm ⁻¹)	≤0.25(400nm)
	≤1.5(3333nm)

Optical Specifications

Non-linear refractive index coeff.n ₂ (×10 ⁻¹³ e.s.u)	≤1.04
Refractive index (1053nm)	1.504±0.003
Abbe value	68.2

APPLICATIONS

- High-power laser
- Ultrashort pulse laser
Used for nonlinear laser microscopies, practical, fiber-based, high power, wideband sources and practical optical frequency comb system
- Waveguide amplifier
Used for femtosecond laser writing method, optical communication

Thermal Specifications

Transformation temp. (°C)	467
Softening temp. (°C)	503
Coeff.of linear thermal expansion (10 ⁻⁷ /K) (30~100°C)	129

Other Specifications

Density (g/cm ³)	2.62
Young's modulus (G Pa)	52.4
Poisson's ratio	0.25
Knoop hardness (kg/cm ²)	347
Fracture toughness (MPa·m ^{1/2})	0.62
Dw (H ₂ O 98°C) (mg/(cm ² /day))	0.41

FEATURES

- High stimulated emission cross section
- Low nonlinear refractive index
- Good thermal characteristics

