SINGLE FREQUENCY

Single-frequency fibre seed lasers

Low-power single-frequency seeds with thermal tuning and optional piezo frequency control.

Applications to discuss: Precision spectroscopy; Interferometry; Seeded amplifier systems.

Selection points
Four near-infrared wavelength bands / 5-50 mW nominal examples / 50 kHz maximum linewidth in listed tables

Configuration options

Wavelength band	Nominal example	Nominal output	Linewidth	Thermal tuning	Piezo tuning
910-930 nm options	922 nm nominal	5 mW nominal	50 kHz maximum	±0.1 nm about the centre	10 GHz minimum; optional piezo
1013-1110 nm options	1110 nm nominal	50 mW nominal	10 kHz nominal; 50 kHz maximum	±0.2 nm about the centre	10 GHz minimum; optional piezo
1530-1580 nm options	1550 nm nominal	5 mW nominal	50 kHz maximum	±0.2 nm about the centre	10 GHz maximum; optional piezo
1730-1950 nm options	1750 nm nominal	10 mW nominal	50 kHz maximum	±0.2 nm about the centre	10 GHz maximum; optional piezo

Each row is a separate configuration. Limits from different rows must not be combined.

Technical details

Parameter	Specification or condition
Polarization extinction ratio	20 dB minimum
ASE suppression	50 dB minimum at 0.1 nm resolution bandwidth
Beam propagation factor	M^2 <1.1

Integration and delivery

Item	Configuration detail
Format	Benchtop controller with touchscreen and remote monitoring
Frequency control	Temperature control; optional piezo tuning and locking
Optical delivery	Polarization-maintaining fibre; connector to confirm

Conditions and configuration notes

• The 922, 1110, 1550 and 1750 nm figures are nominal examples, not all available centre wavelengths.

• Piezo limits are minima for the first two examples and maxima for the last two. The end-to-end tuning span and mode-hop behaviour need confirmation.

• No claim about final linewidth after an external amplifier or frequency converter is made.