ÚFE Institute of Photonics and Electronics
The Czech Academy of Sciences

Broadband thulium ASE radiation source

Description:

The broadband radiation source for the “eye-safe” spectral region in the vicinity of 2 µm wavelength is based on the generation of enhanced spontaneous emission (ASE, Amplified Spontaneous Emission) in thulium-doped optical fibers. These broadband sources of radiation excel in high stability of spectral power density over broadband sources based on supercontinuum generation. This high stability of spectral power density exceeds at several levels the spectral power densities of traditional radiation sources such as a xenon lamp or halogen bulb. The broadband source uses thulium-doped optical fibers with increased fluorescence efficiency, developed and manufactured in the Fiber Optics Technology Laboratory of the ÚFE, Czech Academy of Sciences.

Application:

- Spectroscopy
- Optical chemical sensors - gas analysis
- Biomedical sensors
- Testing of optical components
- Research and development

Technical parameters:

- Output power: > 10 mW
- Central wavelength: 1870 nm
- Bandwidth (-10 dB): > 170 nm
- Bandwidth (-20 dB): > 240 nm
- Operating mode: continuous (cw)
- Beam quality, M^2 : < 1,1
- Output polarization. unpolarized light
- Type of output optical fiber: Corning SMF28e
- Output connector: FC / APC

General parameters:

- Operating temperature: 5 to 35 °C
- Storage temperature: -10 to 60 °C
- Cooling type used: air, active
- Ready to use: 15 minutes after turning on
- Size: 19” box (483 x 310 x 140 mm)

Output spectrum: