- □□□
- English

Submit

- Home
- Products
  - Single Mode Diode Lasers
    - iBeam smart
    - iBeam smart PT
  - Single Frequency Lasers
    - iBeam smart WS
    - TopMode
    - TopWave 266
    - XTRA II
    - UV / RGB solutions
  - Tunable Diode Lasers
    - ECDL / DFB Lasers
      - CTL
      - DL pro
      - DL 100
      - DFB pro
      - MDL pro
    - Frequency-Converted Lasers
      - SHG pro
      - DL-SHG pro
      - TA-SHG pro
      - TA-FHG pro
      - TOPO
    - Amplified Lasers
      - TA pro
      - BoosTA pro
      - BoosTA
    - Laser Driving Electronics
      - DLC pro
      - SYS DC 110: Analog Control
    - Laser Locking Electronics
      - DigiLock 110: Digital Locking
      - FALC 110 & mFALC 110: Fast PID
      - PDH/DLC pro: Pound-Drever-Hall
      - PDD 110/F: Pound-Drever-Hall
      - PID 110: PID Controller
      - DLC pro Lock

- ps/fs Fiber Lasers
  - FemtoFiber smart
    - FemtoFiber smart 780
    - FemtoFYb 1030-400
    - FemtoFYb 1030-800
    - PicoFYb 1030
    - PicoFYb 1064
    - FemtoFErb 1560
    - FemtoFErb 1560 FD6.5
    - FemtoFErb 1950
  - FemtoFiber pro
    - FemtoFiber pro TVIS
    - FemtoFiber pro NIR
    - FemtoFiber pro TNIR
    - FemtoFiber pro SCIR
    - FemtoFiber pro UCP
    - FemtoFiber pro SCYb
    - FemtoFiber pro IR
    - FemtoFiber pro IRS-II
  - FemtoFiber ultra
    - FemtoFiber ultra 780
    - FemtoFiber ultra 920
    - FemtoFiber ultra 1050
    - FemtoFiber ultra 1560
  - FemtoFiber dichro
    - FemtoFiber dichro midIR
  - FemtoFiber customized
    - FemtoFiber CARS
    - FemtoFiber FluoLife
    - FemtoFiber Terahertz Freeze
    - FemtoFiber Quantum Microscopy
- Terahertz Systems
  - Frequency-Domain
    - TeraScan
    - TeraBeam
    - Tuning Range Extension
    - Phase Modulation Extension
    - GaAs and InGaAs Photomixers
  - Time-Domain
    - TeraFlash
    - Imaging Extension
    - TeraSpeed
    - Photoconductive Switches
  - Accessories
    - Optomechanics
    - Schottky Receivers
- Frequency Combs

- Optical Microscopy
  - Confocal Microscopy
  - Raman Microscopy
  - Multiphoton Microscopy
  - SHG Microscopy
  - THG Microscopy
  - Nearfield Chemical Imaging
- Terahertz Sensing
  - Plastic Inspection
  - Paint and Coating Layers
  - Industrial Quality Control
  - Material Research
  - Gas Sensing
  - Hydration Monitoring
  - Ultrafast Dynamics
  - Security
- Applied Quantum Technology
  - Sensing & Metrology
  - Communication
  - Spectroscopy
  - Direct Frequency Comb Spectroscopy
  - Microwave Generation
- Ultrafast Studies
  - Pump-probe Spectroscopy
  - fs/ps Material Processing
  - 2-Photon Polymerization
  - Time-Resolved Microscopy
  - FLIM
  - OCT
  - Mid-IR Generation
- Semicon / Metrology
  - Scatterometry
  - Inspection
  - Ellipsometry
  - Microlithography
  - Lithography Optics Inspection
- Astronomy & Geology
  - Laser Guide Star
  - LIDAR Seeding
  - Distance Metrology

- Technology
  - Technical Tutorials
    - Frequency Conversion
    - Femtosecond Fiber
    - Terahertz
      - Terahertz Properties
      - Terahertz Sources

Single Mode Diode Lasers

- iBeam smart
- iBeam smart PT

Single Frequency Lasers

- iBeam smart WS
- TopMode
- TopWave 266

- XTRA II
- UV / RGB solutions

Tunable Diode Lasers

- ECDL / DFB Lasers
  - CTL
  - DL pro
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  - MDL pro
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  - SHG pro
  - DL-SHG pro
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  - TOPO
- Amplified Lasers
  - TA pro
  - BoosTA pro
  - BoosTA
- Laser Driving Electronics
  - DLC pro
- Laser Locking Electronics

ps/fs Fiber Lasers

- FemtoFiber smart
- FemtoFiber pro
- FemtoFiber ultra
  - FemtoFiber ultra 920
- FemtoFiber dichro
- FemtoFiber customized

Terahertz Systems

- Frequency-Domain
  - TeraScan
  - TeraBeam
- Time-Domain
  - TeraFlash
  - Imaging Extension
  - TeraSpeed
- Accessories

Frequency Combs

- DFC CORE / DFC CORE+
- DFC Wavelength Extensions

- DFC BC / DFC MD
- Complete DFC Systems
- DFC SDL

Multi-Laser Engines

- iChrome CLE
- iChrome MLE

Customized Solutions

- SodiumStar
- TeraFlash smart
- 633 nm High Power
- 213 nm 10 mW cw
- 193 nm sub-mW

Wavemeters & Laser Diodes

- Optical Isolators
- Wavelength Meters
- Photonicals
  - FiberDock
  - FiberOut
  - Optical Fibers
- Laser Diodes
  - Fabry-Perot
  - AR-coated
  - DFB/DBR
  - Tapered Amplifiers

- Applications

Biophotonics

- High-Content Analysis

Industrial Manufacturing

- Raman Spectroscopy
- Holography
- Computer-To-Plate

Fundamental Quantum Technology

- Atom Laser Cooling & Trapping
- Ion Laser Cooling & Trapping
- Degenerate Quantum Gases (BEC, DFG)
- Rydberg Excitation
- Optical Pumping & EIT

- Quantum Dots & Microcavities

Optical Microscopy

- Confocal Microscopy
- Raman Microscopy
- Multiphoton Microscopy
- SHG Microscopy
- THG Microscopy
- Nearfield Chemical Imaging

Terahertz Sensing

- Plastic Inspection
- Paint and Coating Layers
- Industrial Quality Control
- Material Research
- Gas Sensing
- Hydration Monitoring
- Ultrafast Dynamics
- Security

Applied Quantum Technology

- Sensing & Metrology
- Communication
- Spectroscopy
- Direct Frequency Comb Spectroscopy
- Microwave Generation

Ultrafast Studies

- Pump-probe Spectroscopy
- fs/ps Material Processing
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- Laser Guide Star
- LIDAR Seeding
- Distance Metrology

- Technology

Technical Tutorials

- Frequency Conversion
- Femtosecond Fiber
- Terahertz
- Frequency Combs

TOPTICA Proprietary

- smart Series
- pro Series / Technology
- ultra Series
- CERO
- CHARM
- COOL
- FINE
- SKILL

- Company

Company Profile

- All Wavelengths
- Press
- News / TOPTICA Tuesday
- People
- Worldwide Presence
- Events & Exhibitions
- Careers
  - Jobs in Germany
  - Jobs Worldwide
- Quality Management
- Terms of Sale
- Cooperations
- Downloads

- Contact

Contact us

- Sales request
- Support
- Imprint

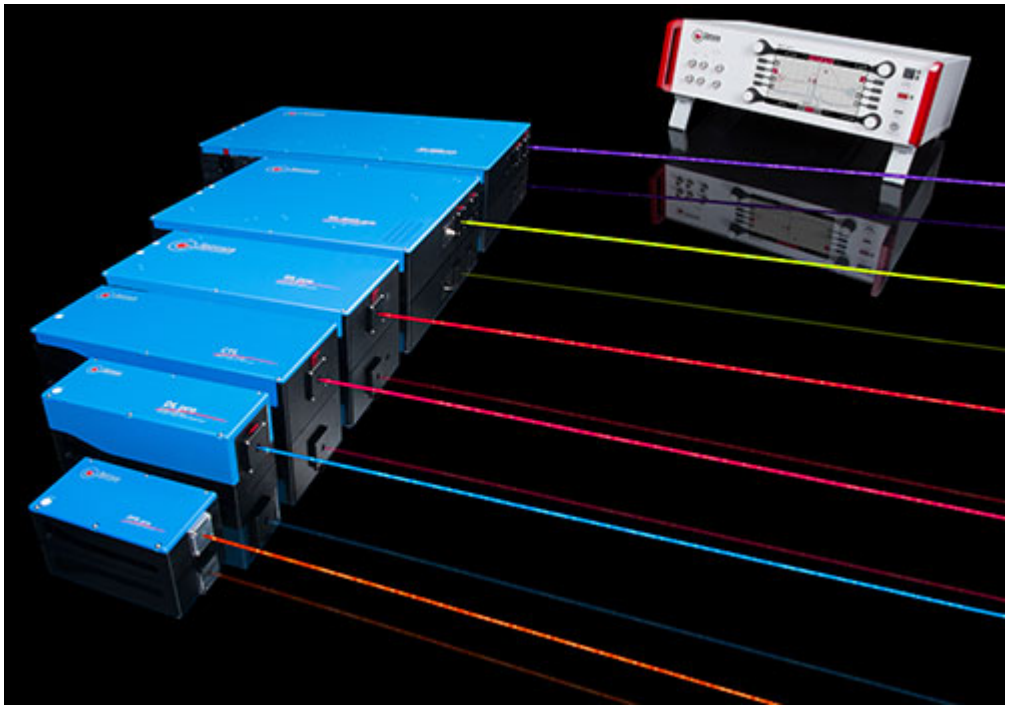
Company

All Wavelengths. 190 nm – 0.1 THz

TOPTICA's products provide an ultra-broad laser wavelength coverage: 190 nm - 0.1 THz (corresponding to 3 mm). They enable a big variety of demanding applications in quantum optics, spectroscopy, biophotonics, microscopy, test & measurement, as well as materials inspection. The unique wavelength range is based on three major product categories:

Diode Lasers

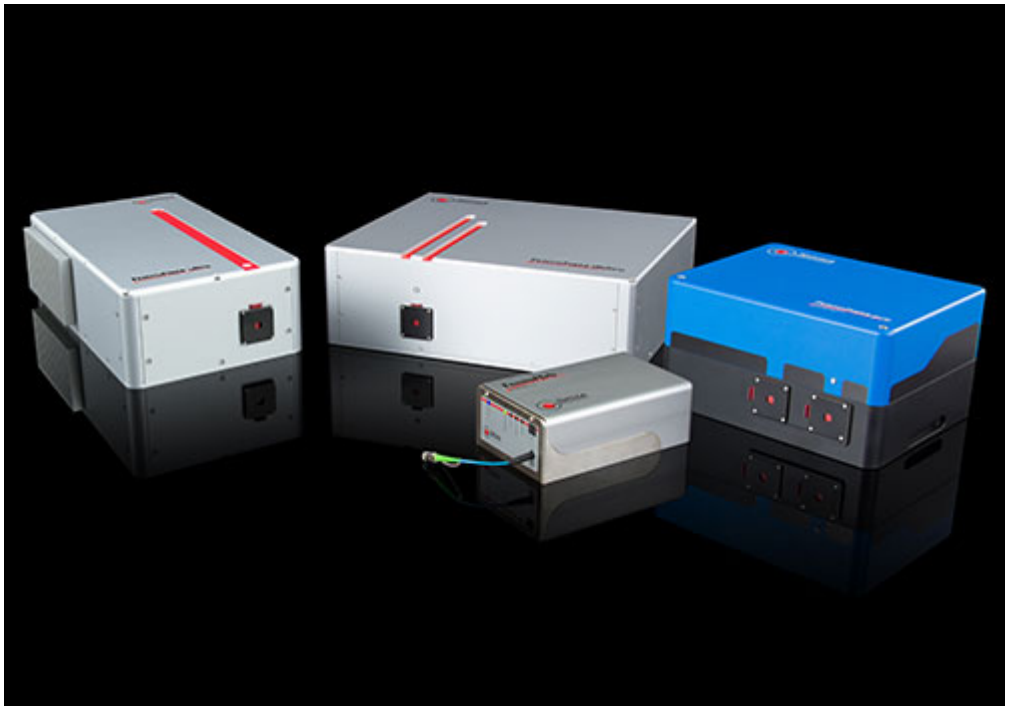
190 - 3500 nm
with frequency-conversion techniques



Narrow linewidth, highest accuracy, ultra-wide wavelength tunability and great ease of use are the key attributes of TOPTICA's tunable diode lasers. Due to their ultra-stable design and digital control electronics they reach excellent low noise and drift values.

Ultrafast Fiber Lasers

488 nm - 2300 nm,
(3500 nm customized) 5000 - 15000 nm



TOPTICA's pulsed fiber lasers reach pulse durations as short as 25 fs and output power levels of more than 5 W. A modular design concept with erbium- and ytterbium-doped fibers

is the basis for different wavelength models (1560 / 780 nm, VIS / NIR tunable output, IR / NIR supercontinuum, broadband mid-IR).

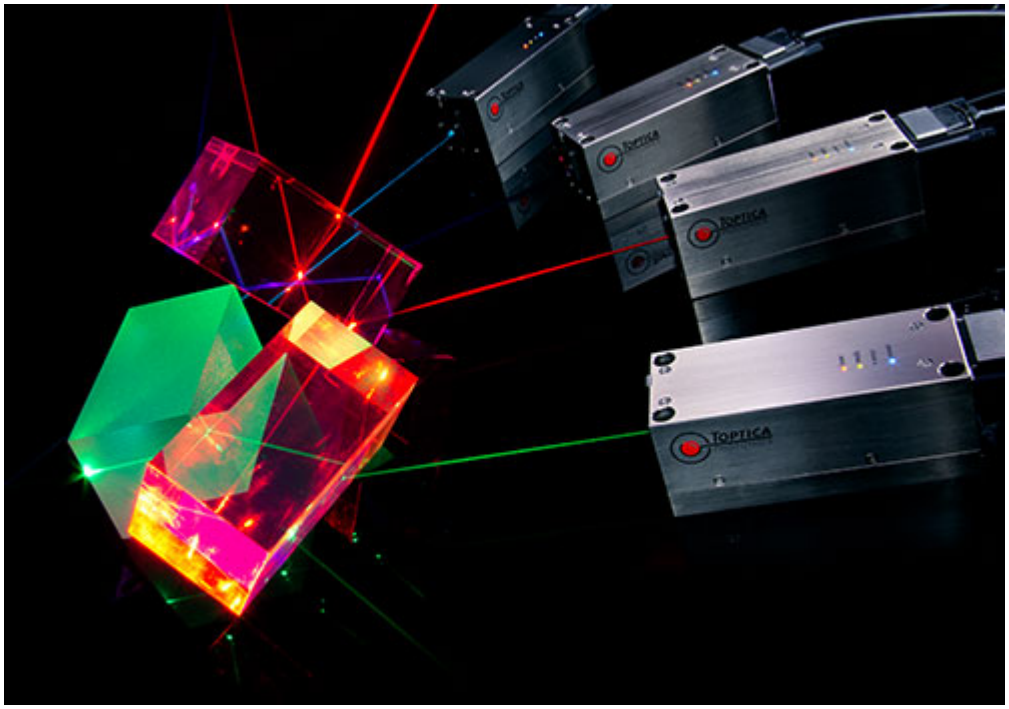
Terahertz Systems

0.1 - 6 THz
(15 THz customized)

TOPTICA's terahertz solutions set new standards in terms of dynamic range, bandwidth and measurement speed. The portfolio includes complete systems and components for continuous or pulsed terahertz radiation with highest reliability and cutting-edge specifications.

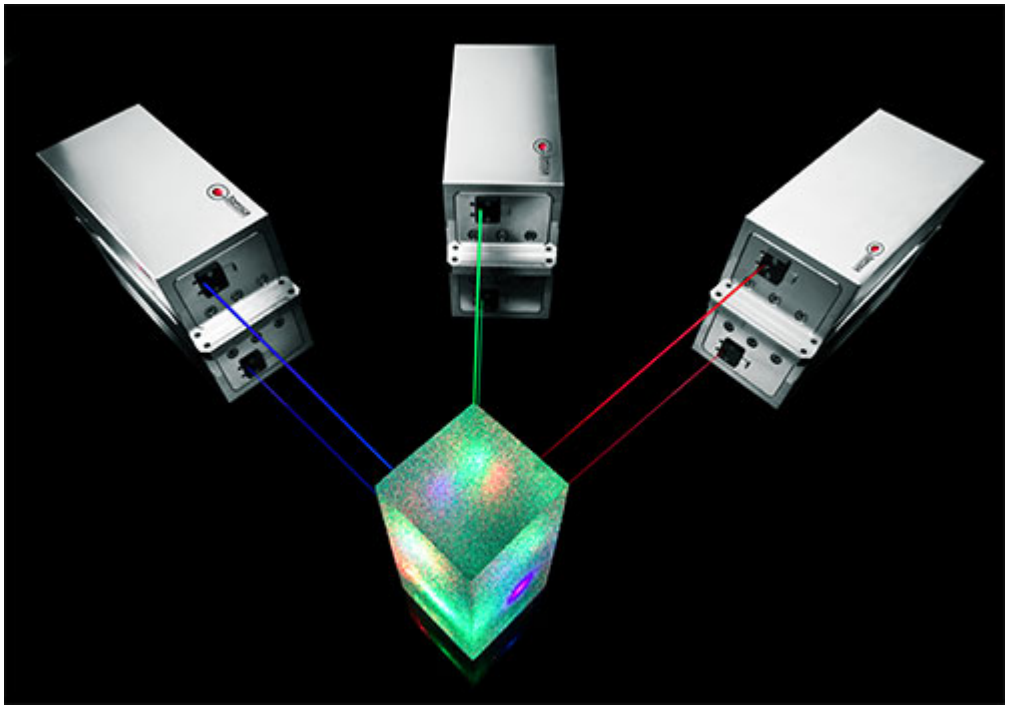
Additional product lines are available that further extend the number of supported applications. These innovative solutions are specifically tailored to enable sophisticated experiments in physics, biology or chemistry. They help to achieve milestones in fundamental research programs, as well as in complex industrial development projects:

Single-Mode Diode Lasers



TOPTICA's single-mode diode lasers combine excellent diode technology and rock-solid opto-mechanical engineering with convenient computer-control and intelligent protection measures. They come with diffraction limited TEM_{00}-output and reliable spectral properties, as well as optional robust fiber-coupling.

Single-Frequency Diode Lasers



The single-frequency diode lasers employ state-of-the-art diode technology to achieve the highest single-frequency output power of any direct diode-based system. For example, the TopMode 405 nm providing 100 mW, or the TopWave 266 nm offering 300 mW – both industry records!

Amplified Diode Lasers

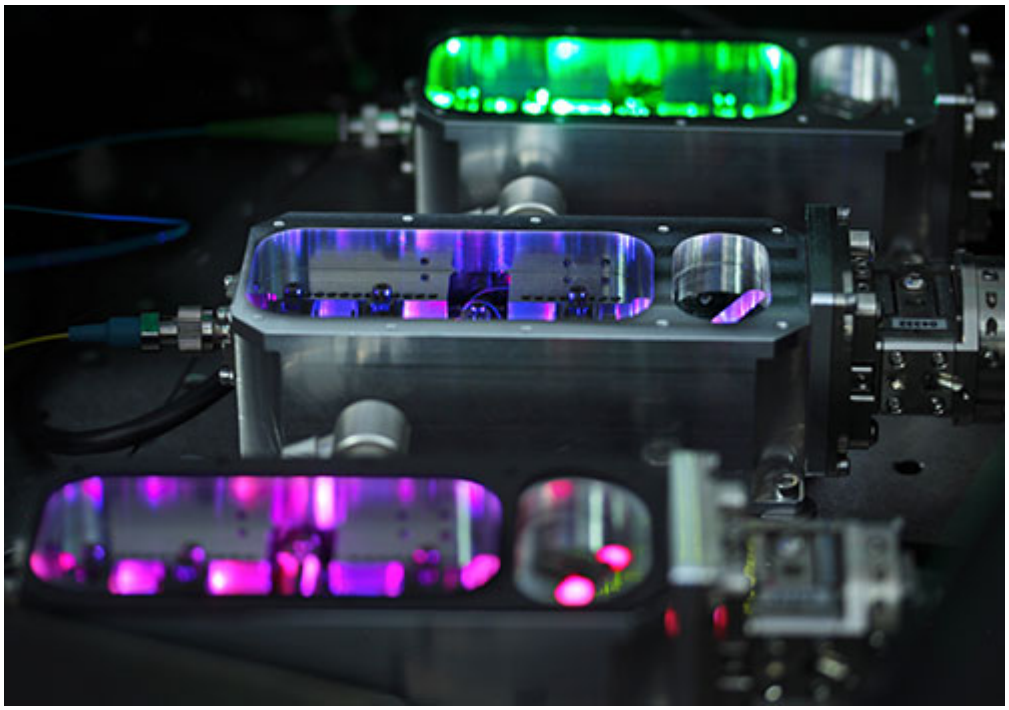
Tapered amplifier systems are available in Master Oscillator Power Amplifier (MOPA) configuration or as stand-alone amplifier systems. The amplifiers reach high output power levels up to 3.5 W with excellent beam quality, without compromising the favorable spectral qualities of the master lasers.

Frequency-Converted Diode Lasers

Via second or fourth harmonic generation, TOPTICA's frequency-converted laser systems access the UV, blue, green, yellow and orange spectral ranges with high output power

levels. The tunable, single-frequency systems are available at virtually any wavelength between 190 nm and 780 nm.

Frequency Combs



TOPTICA's offset-free frequency combs reach an unprecedented low-noise operation. With TOPTICA's tunable diode lasers they can be combined into easy-to-use laser systems delivering frequency-stable cw-output at any wavelength between 420 nm and 2200 nm.

Multi-Laser Engines

Multi-laser engines seamlessly integrate several wavelengths into true one-box laser systems – switching between colors has never been easier. The systems' flexibility and ease of use enable straightforward integration into any customer’s system design.

More insight about the wide range of applications that are enabled with TOPTICA’s lasers can be found on the poster "Laser Absorption in Physics, Chemistry & Biology". It displays the central absorption wavelengths of single atoms, semiconductors, molecular gases, molecules and fluorophores (1PE and 2PE) in the wavelength range of 190 - 3500 nm.

All indicated elements can be studied with TOPTICA's lasers. In addition, TOPTICA's product range also enables optical studies of much more elements in other wavelength regions, i.e. up to 3 mm.

You can download a high-resolution version of the poster as picture or pdf.
And we are happy to send you a paper print of this poster - please contact us at poster [at] toptica.com.

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