All-Fiber Pulsed Laser

Cooksha™

Outline

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Introduction

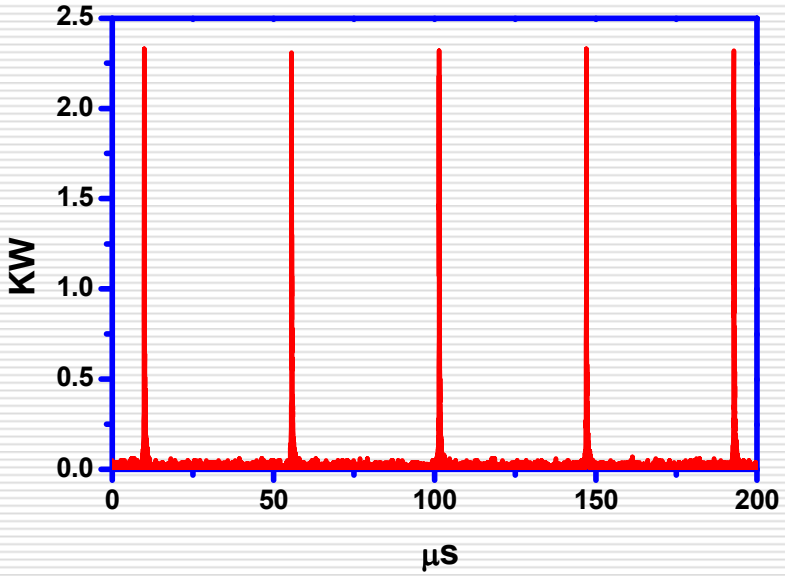
- Fiber lasers advantages:
  - ✓ Compact
  - ✓ Robust and reliable
  - ✓ Highly efficient, no cooling systems
  - ✓ No special maintenance: office&field
  - ✓ Easy to deliver radiation to any point
  - ✓ Excellent beam quality
  - ✓ Inexpensive solution

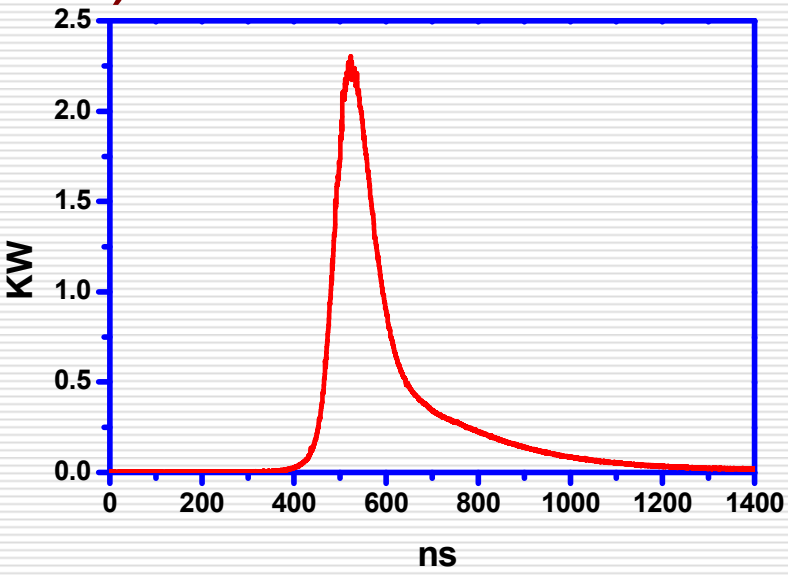
All-Fiber Laser Advantages

- No bulk elements = **reliability**
  - ✓ No coupling from space to fiber and vice versa
  - ✓ No misalignment
  - ✓ No maintenance
  - ✓ The highest resistance to an aggressive environment

Novel Pulsed Laser

- Highly stable (jitter, repetition rate) all-fiber laser (comparable to fiber lasers with bulk modulators)





Technical Information

Current Parameters

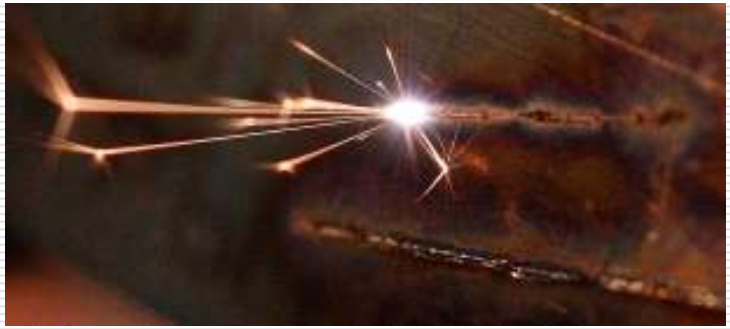
Spectral Range, nm	1060-1080
Average Output Power, W	>20
Pulse width, ns	20-200
Pulse Energy*, mJ	>0.5
FWHM, nm	<1

**Pulse width = 150 ns*

Applicability

- Industry, micromachining (marking, engraving, drilling, welding)
- Space monitoring (lidars and etc.)
- Medical treatment (from surgery to cosmetology)

Examples



Cutting of a 100 μm thick list of steel

Here and after the pictures with brightly expressed results of the laser operation are shown

Examples

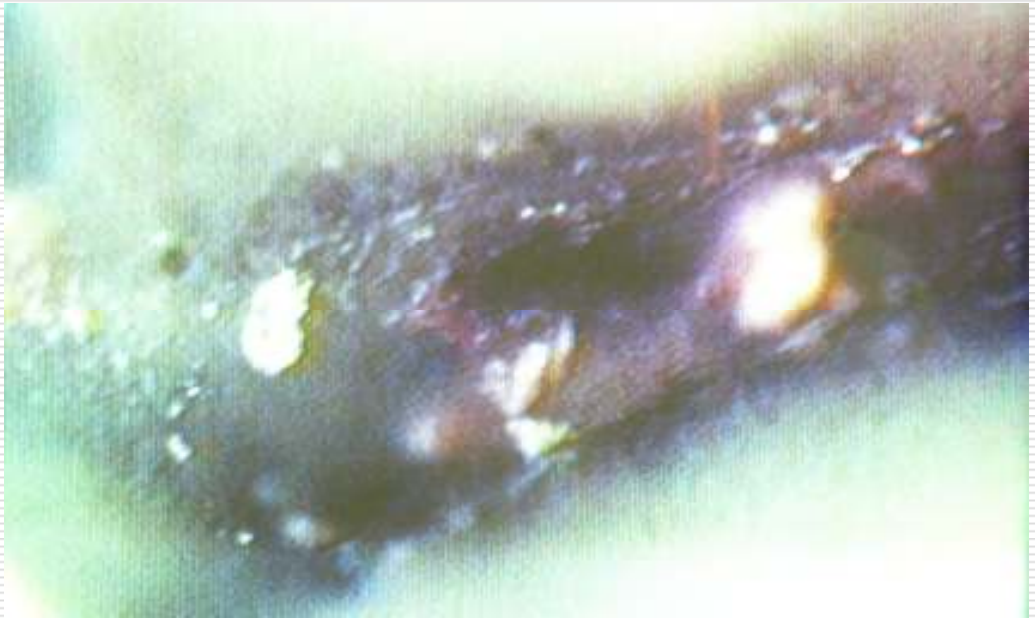
Treatment of a bio-tissue

Drilled hole of 10 µm diameter, steel

Examples

Carbonization visualizes the trace of incision

Examples



Formation of a cavity in a biological tissue (tooth)

Prospects

- Spectral diapasons of 1.5 and 2 μm
- Average output power >100 W
- Pulse width < 10 ns
- Pulse energy > 1 mJ

Conclusion

- We present an extremely stable and reliable fiber laser
- Wide area of applications
- Great prospects

Thank You for Your Interest!

Do not hesitate to contact us:

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