



Photonic jet technology allows :

- etching with cheaper laser source
- a dramatical decrease of etching size
- engraving metal, semiconductor and ITO with industry standard nanosecond near infrared laser

KEYWORDS

Laser engraving
Laser marking
Anticounterfeiting
Precision
Manufacturing

PATENT

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INVENTORS

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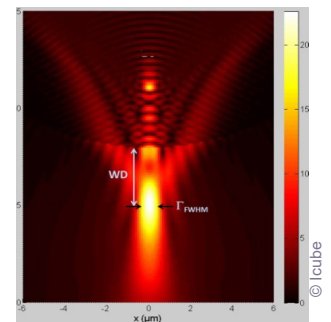
ICUBE (UNISTRA)

IREPA LASER



TECHNOLOGY

A specially designed optical fiber concentrates the laser beam into a small area (diameter until almost half the laser wavelength), enabling a major precision step (on our prototype, an industry standard Ytterbium fiber can reach an engraving definition of more than $1\ \mu\text{m}$).



APPLICATIONS

- Luxury goods/watchmaking: Anti counterfeiting unique and invisible marking (serial number, QR-code...)
- Pharmaceuticals: Invisible tracking code engraved on drugs and/or packaging
- Electronics, microfabrication: micro datamatrix code engraving
- Medical : laser ablation in endoscopy



ADVANTAGES

- Highly cost competitive compared to changing laser class
- High sturdiness and easy optical head exchange
- Extremely small optical head (Diameter: $200\ \mu\text{m}$)
- Flexible optical head.

DEVELOPMENT STATUS

- Patent application pending
- Proof of concept done: engraving machine available for demonstrations
- Tests currently being done to find optimal engraving parameters
- Collaboration profile: licensing

Partnership: Seeking partners for co-development or licensing

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