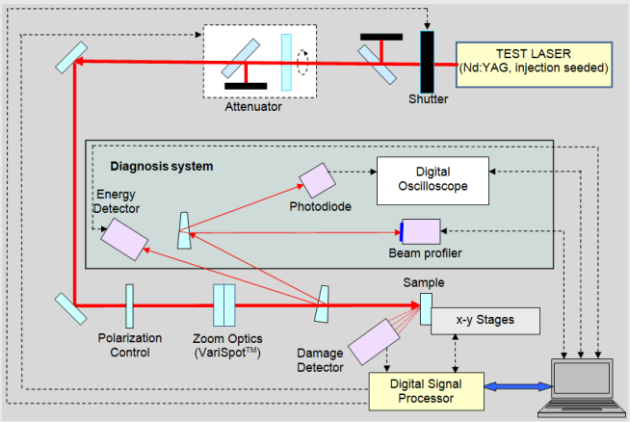
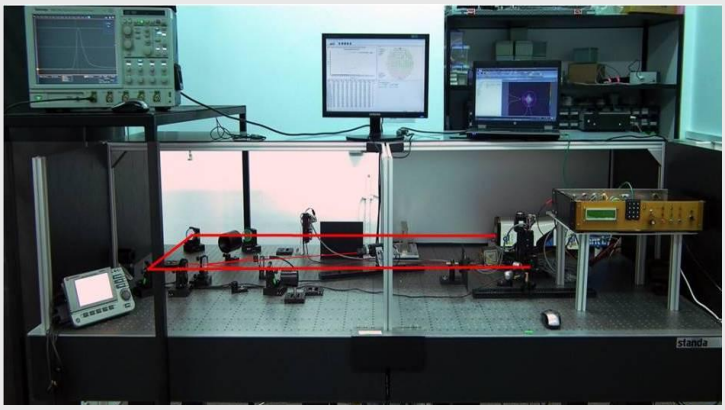
Nanosecond Test Station for LIDT Measurements according to ISO 21254-1,2,3,4

ISOTEST Laboratory, National Institute for Lasers, Plasma, and Radiation Physics (INFLPR)
Magurele-Bucharest, Romania

Three Wavelength Nd:YAG Automated Test Station





Specifications

Test standards: ISO 21254 -1,2,3,4:2011

Test procedures: S-on-1; Durability (type 2)

Wavelengths: 1064 nm; 532 nm; 355 nm

Pulse energy: 700 mJ; 280 mJ; 100 mJ

Pulse repetition frequency: 10 Hz

Effective spot diameter, d_{eff}: 0.2 mm – 4.0 mm

Spatial profile: Near gaussian to near flat top

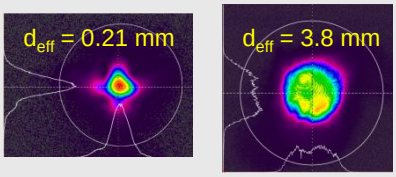
Effective pulse duration, t_{eff}: 6 ns; 5 ns; 4 ns

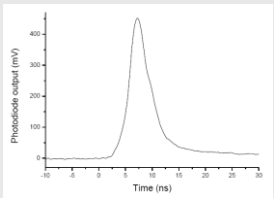
Temporal profile: Smooth waveform (injection-seeded laser)

Polarization state: Linear or circular

Incidence angle: 0^0 – 60^0

Spatial profiles

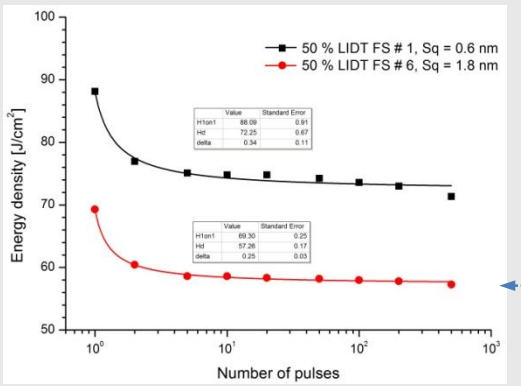




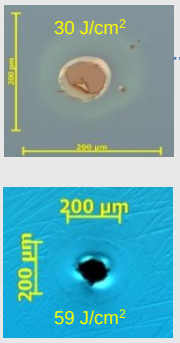
Typical temporal profile, 1064 nm
t_{eff} = 5.8 ns; t_{FWHM} = 4.4 ns

Examples: S-on-1 characteristic damage curves at 1064 nm

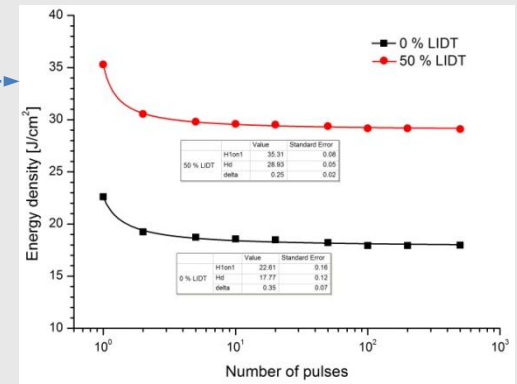
Spot diameter, d_{eff} = 0.21 mm



S-on-1 characteristic damage curves (S = 500) for two fused silica substrates with different roughness (AFM)



Nomarski micrographs of damaged sites



Damage curves for AR@1064 nm dielectric coating

Contacts
George Nemes: gnemes02@yahoo.com
Alexandru Zorila: alexandru.zorila@inflpr.ro
Phone (Romania): +40-21-457-4562
Phone (USA): +1-916-364-3424

ISOTEST Laboratory, INFLPR; http://ssll.inflpr.ro/isotest
409 Atomistilor St., P.O. Box MG-36
077125 Magurele - Bucharest, ROMANIA
ASTiGMAT™, 3409 Pecky Cedar Ct.
Sacramento, CA 95827, USA
gnemes@astigmat-us.com