

Ultrashort Pulse Laser Microfabrication Technologies at FTMC

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Ultrashort laser pulses enable precise material processing with exceptional spatial and temporal confinement. Because the pulse duration is shorter than the electron–phonon relaxation time, the material experiences minimal or no heat-affected zone. This phenomenon underpins most of the laser–matter interaction research conducted at the FTMC Laser Microfabrication Laboratory. Our activities cover a wide range of topics, including rapid and efficient ablation, 3D engraving, GHz burst processing, laser polishing, glass micromachining (milling, cutting, scribing, welding), femtosecond laser-induced selective etching (FLICE), laser-induced periodic surface structures (LIPSS), laser coloring, surface functionalization, plasmonic sub-microstructures, and selective surface activation induced by laser (SSAIL), among others.

Type of presence

Presence online

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