**Femtosecond laser microfabrication towards high efficiency, new materials and advanced devices**

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Femtosecond laser microfabrication has been proved to be a powerful 3D microfabrication technique with high precision. However, the main difficulties are low fabrication efficiency caused by point-to-point scanning strategy, complex interaction mechanism between laser and new materials, and how to combine with other microfabrication method for highly functional devices. In order to overcome these disadvantages, (1) SLM-based (spatial light modulator) 2D-3D laser intensity patterns (e.g., mutlifoci or arbitrary patterns) were proposed to significantly speed up the fabrication process by several orders of magnitude; (2) The complex physical mechanism between laser and new materials was investigated, the nonlinear coefficient erasure effect of LiNbO3 crystals; (3) The laser fabrication was combined with other bottom-up or top-down method for more advanced devices. These works have found a wide range of applications in optics, microbotics, and biology, such as nonlinear beam shaping, particles filtering, and cell manipulation.

**Short Bio:**

Dong WU is a professor of engineering science at University of Science and Technology of China (USTC), funded by the **National Science Fund for Distinguished Young Scholars**. He obtained Ph.d degree at Jilin University in 2010 and then became a postdoc at RIKEN in Japan from 2011 to 2014. He obtained the fifth Chinese Thousand Youth Talents Plan, One hundred excellent doctoral theses and was the topical editor of Optics Letters. His current research interests are SLM-based high-efficiency femtosecond laser 3D microfabrication in various materials towards highly functional 2D-3D devices. Prof. Wu has published 200 papers in the international journals of Nature Photonics, Nat. Comm., Light: Sci & Appl., PNAS, Adv. Mater. and so on. These works were supported by NSFC, CAS, and MOST.