

عنوان مقاله:

Photonic and Plasmonic Encryption Based on Reflection–Transmission Reconfigurable Digital Coding Metasurface in Holographic images

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خلاصه مقاله:

Holography is a powerful technique that enables the manipulation of light waves and has been widely used in imaging, display technologies, and security. Recently, the field of plasmonics has emerged as a promising platform for creating holographic metasurfaces. Plasmonics holographic metasurfaces utilize plasmonic materials and engineered nanostructures to control and redirect light at the nanoscale. In this review, we provide a comprehensive overview of the recent developments in plasmonics holographic metasurfaces, including design principles, fabrication methods, and applications. We discuss different types of plasmonic materials and their properties for holographic metasurfaces, and explore the various approaches for engineering metasurfaces with desired functionalities. Furthermore, we summarize the state-of-the-art fabrication techniques, such as electron beam lithography and nanoimprint lithography, which are commonly employed for the fabrication of plasmonic holographic metasurfaces. Finally, we present the wide range of applications enabled by these metasurfaces, including beam shaping, holographic displays, optical encryption, and biosensing. This review aims to provide a comprehensive understanding of plasmonics holographic metasurfaces and their potential for future advancements in various disciplines.

کلمات کلیدی:

Encryption, Hologram, Metasurface, Photonics, Plasmonics

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