

Challenges on optical printing of colloidal nanoparticles

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Resumen

While colloidal chemistry provides ways to obtain a great variety of nanoparticles with different shapes, sizes, material compositions, and surface functions, their controlled deposition and combination on arbitrary positions of substrates remain a considerable challenge. Over the last ten years, optical printing arose as a versatile method to achieve this purpose for different kinds of nanoparticles. In this article, we review the state of the art of optical printing of single nanoparticles and discuss its strengths, limitations, and future perspectives by focusing on four main challenges: printing accuracy, resolution, selectivity, and nanoparticle photostability.

Palabras claves:

Plasmonics, Colloidal systems, Electrostatics, Thermo optic effects, Nanofabrication, Nanoparticle, Lasers, DNA origami