AN OPTICAL NANO-MANIPULATOR FOR PARTICLES IN A FLUID

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The subject matter of invention is remotely controlled nano-manipulators, particularly colloidal plasmonic manipulators. This nano-manipulator can trap and transport molecules swiftly and does not need nanopatterned surface.

BACKGROUND

One of the established methods of manipulation is optical manipulators using optical tweezers. However, this technique suffers drawback as light cannot be focused to sub-wavelength size. Alternatively, plasmonic tweezers overcome the size limitation in optical tweezers. Again, optical manipulation using plasmonic tweezers is a slow process and requires nanostructured substrate.

TECHNOLOGY

The invention provides a novel method for trapping and manipulation of particles using remotely controlled nano-manipulators. This technique can be scaled to trap and transport sub-wavelength size particles. It does not require nanostructured substrate and therefore it is an efficient and economical process.

COMMERCIALIZATION

Indian Institute of Science has filed a patent application for grant before Indian Patent Office.