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Large area plasmonic nanostructures for point of care applications

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Long range plasmonic nano-structure array can be used to make a reliable point of care device. In this poster, the gold nano-ring array pattern fabrication process is explained. The plasmon peak is tuned with changing the ring parameters. The EM field concentrated on each ring structure is calculated and compared with the case of coupled rings. Due to the hot spots formation in the coupled rings, the overall EM enhancement is high. The optical and EM field results are compared with the Finite Difference Time Domain (FDTD) simulations. Finally, chip-based plasmonic substrate application in point of care device is explained.

Biography

Sujan Kasani is currently a PhD student of Electrical Engineering department in West Virginia University, USA. His research area cover nanofabrication, semiconductor electronics, biosensors and solar energy. He published (first and co-authored) 8 papers in high impact factor journals which include Nano Research, JPCC, Analytical Chemistry and Nanoscale Horizons. He is also serving as a reviewer for Elsevier-Photonics and Nanostructures, IOP-Nanotechnology and ISME.

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