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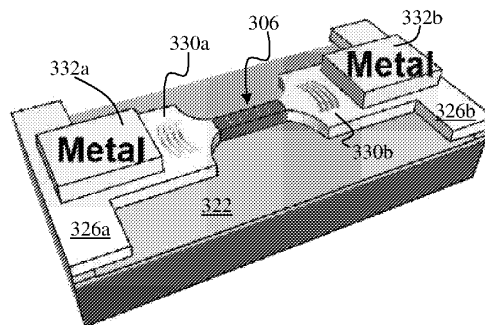


FIG. 3D

(57) Abstract: According to embodiments of the present invention, an optical device is provided. The optical device includes a substrate, a semiconductor layer on the substrate, the semiconductor layer having a beam structure that is subjected to a tensile strain, wherein the beam structure includes a plurality of nanostructures, and wherein, for each nanostructure of the plurality of nanostructures, the nanostructure is configured to locally amplify the tensile strain at the nanostructure to define a strain-induced artificial quantum heterostructure for quantum confinement. According to a further embodiment of the present invention, a method of forming an optical device is also provided.



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