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(54) Title of the invention : PLASMONIC BASED PHOTO DETECTOR

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(57) Abstract :

The present disclosure pertains to a plasmonic based photo detector (100) for enhancement of light absorption. The photo detector (100) includes a substrate (108), a first layer (106) configured on top of the substrate (108), where the first layer (106) is made up of a first material with predefined number of trapezoidal shaped nano particles, a second layer (102) configured on top of the first layer (106), where the second layer (102) is made up of a second material with predefined number of triangular shaped nanograting particles. The second layer (102) is configured with an aperture of predefined wavelength, where the aperture facilitates enhancing light transmission to the substrate (108), and where the photo detector (100) facilitate achieving a high light absorption enhancement factor (LAEF). The first material is made up of silver and the second material is made up of crystalline silicon.

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