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(54) Title: DEVICE FOR COLOR CONVERSION AND METHOD FOR FORMING THE SAME

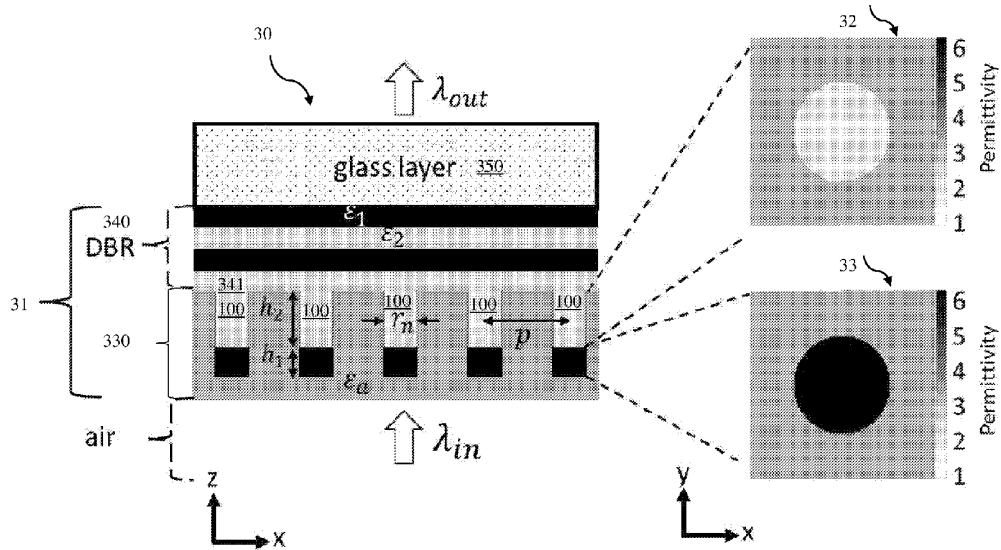


FIG. 3A

(57) Abstract: A device for color conversion is provided. The device comprises a Distributed Bragg Reflector (DBR) structure on a substrate and a metasurface comprising a plurality of nanostructures is disposed on the DBR. Each nanostructure includes a first dielectric layer with a first refractive index on a second dielectric layer with a second refractive index, the first refractive index being different from the second refractive index. An active medium comprising quantum dots is disposed in between the plurality of nanostructures. The geometric parameters of the plurality of nanostructures are controlled such that the cavity modes of different natures can be tailored to match the absorption spectra of the active medium. This enhances absorption of incident light and color-conversion efficiency.

[Continued on next page]

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