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(54) Title: HIGH COLOUR PURITY LIGHT EMITTING DIODE

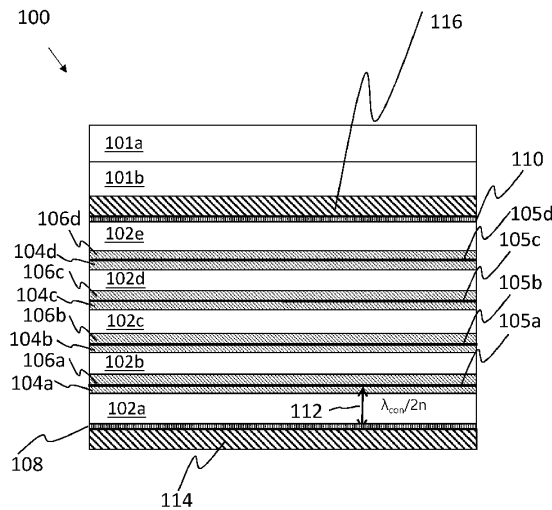


Figure 1

(57) Abstract: A colour conversion resonator system (100) comprising: a partially reflective region (114) configured to transmit light of a first primary peak wavelength and to reflect light of a second primary peak wavelength; a further partially reflective region (116) configured to at least partially reflect light with the second primary peak wavelength; and a colour conversion resonator cavity comprising at least one quantum well (105a-d), wherein the colour conversion resonator cavity is arranged to: receive input light with the first primary peak wavelength through the partially reflective region; and convert, by the at least one quantum well, at least some of the received input light to provide light of the second primary peak wavelength such that light of the second primary peak wavelength resonates in the cavity and light with the resonant second primary peak wavelength is output through the further partially reflective region, wherein the at least one quantum well is placed to coincide with an antinode of the colour conversion resonator cavity standing

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wavelength for light of the second primary peak wavelength, thereby enhancing at least one of: intensity, spectral width and directionality of output light with the second primary peak wavelength.