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Wanke

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(54) **MONOLITHICALLY INTEGRATED ABSOLUTE FREQUENCY COMB LASER SYSTEM**

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CPC ***H01S 3/08027*** (2013.01); ***H01S 3/08036*** (2013.01); ***H01S 3/109*** (2013.01); ***H01S 5/026*** (2013.01); ***H01S 5/0623*** (2013.01); ***H01S 5/3401*** (2013.01)

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See application file for complete search history.

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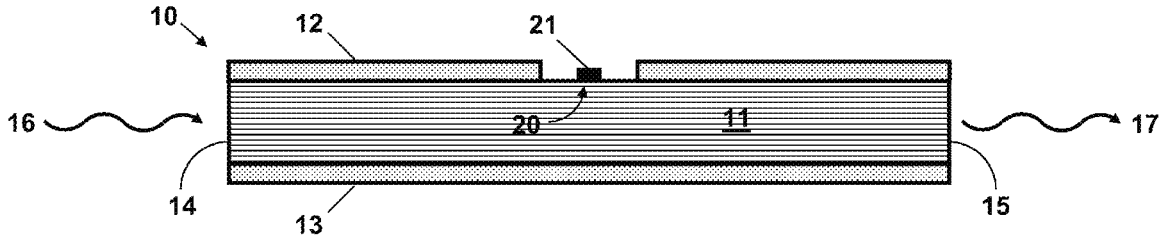
(57) **ABSTRACT**

Rather than down-convert optical frequencies, a QCL laser system directly generates a THz frequency comb in a compact monolithically integrated chip that can be locked to an absolute frequency without the need of a frequency-comb synthesizer. The monolithic, absolute frequency comb can provide a THz frequency reference and tool for high-resolution broad band spectroscopy.

6 Claims, 3 Drawing Sheets