

Patent Number(s): WO2012096398-A1

Title: Terahertz-wave element of terahertz-wave detecting device for terahertz time-domain spectroscopy system, changes propagation state of light propagating through waveguide layer based on terahertz wave entering waveguide layer

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Abstract: NOVELTY - The element has waveguide layer (4) which is provided with electro-optic crystal, core layer, and cladding layer. The terahertz wave generated from the electro-optic crystal is extracted by optical coupling portion (7). The terahertz wave is entered into the waveguide layer through coupling portion. The propagation state of light propagating through the waveguide layer is changed based on terahertz wave entering the waveguide layer via coupling portion. The cladding layer is formed between the coupling portion and core layer.

USE - Terahertz-wave element of terahertz-wave detecting device for terahertz time-domain spectroscopy system used in tomographic imaging apparatus (all claimed).

ADVANTAGE - The propagation state of light propagating through the waveguide is changed based on terahertz wave entering the waveguide layer via coupling portion, so that the propagation loss of input laser light can be reduced, and the coupling efficiency can be improved. The number of spatial coupling components can be reduced, so that the size and cost reduction can be achieved without degrading the imaging performance.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for terahertz-wave detecting device.

DESCRIPTION OF DRAWING(S) - The drawing shows a sectional view of the terahertz-wave element.

Adhesive layer (2)

Waveguide layer (4)

Optical coupling portion (7)

Wollaston prism (9)

Photo diodes (10,11)

Derwent Class Code(s): P81 (Optics); S03 (Scientific Instrumentation, photometry, calorimetry); V07 (Fibre-optics and Light Control)

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