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- (71) Applicant: MIMOS BERHAD [MY/MY]; Technology Park Malaysia, Bukit Jalil, 57000 Kuala Lumpur (MY).
- (72) Inventors: ZALHAN, Binti Md Yusof; c/o Technology Park Malaysia, Bukit Jalil, 57000 Kuala Lumpur (MY). NUR, Ain Binti Mohd Aziz; c/o Technology Park Malaysia, Bukit Jalil, 57000 Kuala Lumpur (MY). MOHD, Hafizulfika Bin Hisham; c/o Technology Park Malaysia, Bukit Jalil, 57000 Kuala Lumpur (MY). GUNAWAN, Wit Jaksono; c/o Technology Park Malaysia, Bukit Jalil (MY).
- (74) Agent: MANIAM, Mahalingam; IP Rights (M) Sdn Bhd, No. 7-M, Biz Avenue, Neo Cyber, Lingkaran Cyber Point Barat, 63000, Cyberjaya, Selangor Darul Ehsan (MY).

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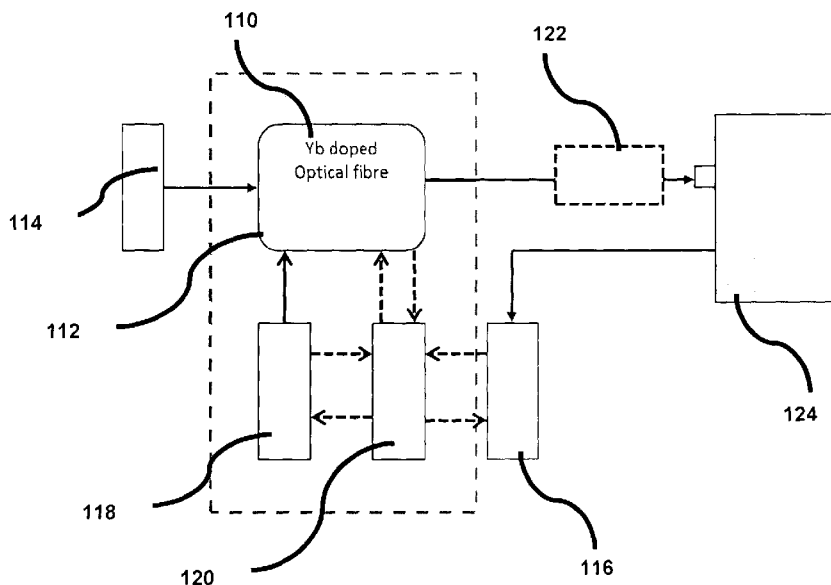
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(54) Title: METHOD FOR PRODUCING NARROW SPECTRAL LINEWIDTHS

Figure 1



(57) Abstract: The present invention relates to a method for producing narrow spectral linewidths more particularly by narrowing the full wave half maximum (FWHM) linewidth to a narrowed spectral linewidth. One of the advantages of the method of the present invention is to detect molecular bonding in analyte via contactless approach optical sensor. Another advantage of the present invention is that each LED has its own broader FWHM spectral linewidth and narrowing the linewidth to its unique and precise wavelength which contributes to more accurate observations and determination of analyte concentration.

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Published examined utility model applications of Japan 1922-1996 Published unexamined utility model applications of Japan 1971-2015 Registered utility model specifications of Japan 1996-2015 Published registered utility model applications of Japan 1994-2015		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
IEEE Xplore, JSTPlus (JDreamIII)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	J.LIMPERT, et.al., High-power picosecond fiber amplifier based on nonlinear spectral compression, OPTICS LETTERS, 2005.04.01, Vol.30, No.7, pp.714-716	1-7
Y	US 2013/0064259 A1 (GIGAPHOTON INC.) 2013.03.14, the whole document (especially, Claims1-2) & WO 2011/148895 A1	1-7
Y	JP 2001-083557 A (NIKON CORP.) 2001.03.30, the whole document (especially, Claims1-2, [0020]-[0023]) No Family	2
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
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Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2008/024276 A2 (BAYER HEALTHCARE LLC) 2008.02.28, the whole document (especially, [0026]-[0027]) & JP 2010-501251 A & US 2008/0059100 A1 & US 2010/0226549 A1 & EP 2077748 A2	3
A	J.LIMPERT, et.al., SPM-induced spectral compression of picosecond pulses in a single-mode Yb-doped fiber amplifier, Applied Physics B, 2002.01.17, Vol.74, No.2, pp.191-195	1-7
A	JP 2012-002965 A (NIKON CORP.) 2012.01.05, the whole document (especially, [0020],[0021], [0036]-[0039],[0047]-[0049]) No Family	1-7
A	WO 2005/022705 A2 (IMRA AMERICA, INC.) 2005.03.10, the whole document (especially, [0008],[0016] -[0018]) & JP 2007-516600 A & US 2005/0041702 A1 & EP 1658663 A2 & DE 19812203 A1	1-7
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A	US 2013/0088770 A1 (OSAKA UNIVERSITY) 2013.04.11, the whole document & JP 5429724 B2 & WO 2011/136220 A1 & EP 2565708 A1	1-7
A	WO 2002/095486 A1 (NIKON CORP.) 2002.11.28, the whole document No Family	1-7