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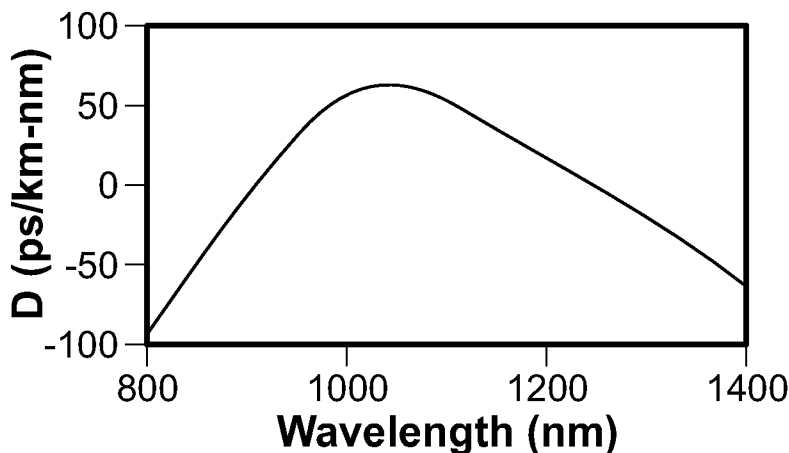


FIG. 2B

(57) Abstract: The present invention includes an apparatus and method for producing optical pulses of a desired wavelength. The apparatus includes an optical pulse source operable to generate input optical pulses at a first wavelength. The apparatus further includes a higher-order-mode (HOM) fiber module operable to receive the input optical pulses at the first wavelength, and thereafter to produce output optical pulses at the desired wavelength by exciting Cherenkov radiation using the input optical pulses. The present invention also relates to a method of producing optical pulses having a desired wavelength, where the input optical pulses have a first wavelength and a first spatial mode and the output optical pulses have a second wavelength and a second

spatial mode, which may be converted to another spatial mode.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

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USPC - 372/6

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
USPC: 372/6

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC: 372/6

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
USPTO WEST (PGPB, USPT, EPAB, JPAB); Google Scholar
Search terms: Cerenkov or Cherenkov radiation or exciting, laser or CPA or chirped pulse amplification, optical pulse, tunable or tuning or alter or adjust or desired wavelength, fiber module or source or hom or higher order mode, mode converter, pulse energy

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2005/0163426 A1 (FERMANN et al.) 28 July 2005 (28.07.2005), entire document, especially Fig. 7, claim 14, para [0006]-[0008], [0023]-[0025], [0050]-[0064], [0068], [0078], [0090], [0094]-[0103]	1-62
Y	US 6,134,372 A (ICHIKAWA et al.) 17 October 2000 (17.10.2000), col 6, ln 39-63	1-62
Y	US 2005/0043636 A1 (GAETA et al.) 24 February 2005 (24.02.2005), abstract, para [0009], [0011], [0014], [0024], [0044]-[0047], [0070]	32-36

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:

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