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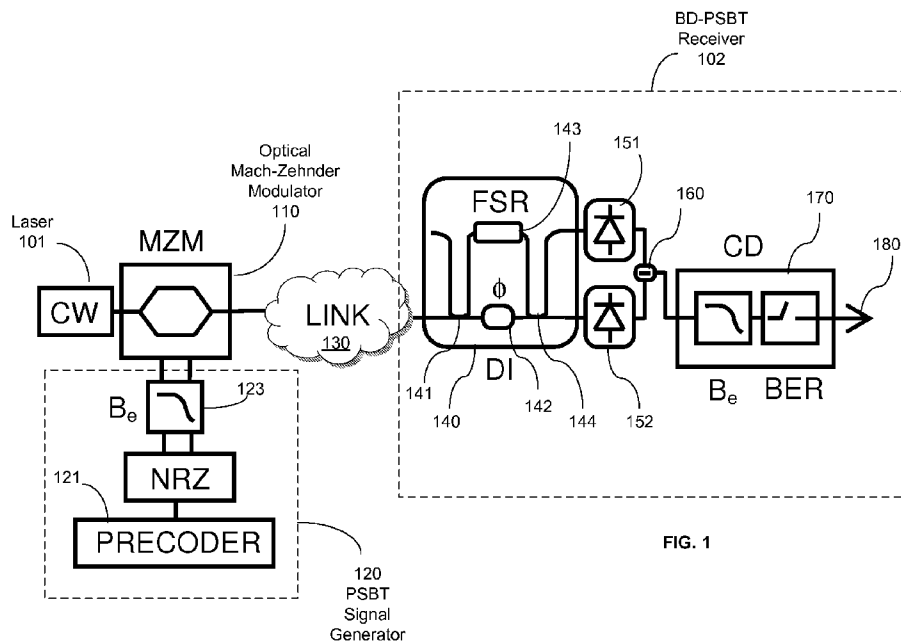


FIG. 1

(57) Abstract: Optical communication apparatus, methods, systems are provided based on balanced-detection phase-shaped binary transmission (BD-PSBT).

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**A. CLASSIFICATION OF SUBJECT MATTER****H04L 27/34(2006.01)i, H04B 10/00(2006.01)i**

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)

IPC: H04L 27/34

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Utility Models and applications for Utility Models since 1975

Japanese Utility Models and applications for Utility Models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKIPASS(KIPO internal) &amp; keywords: optical, communication, PSBT, Mach-Zehnder modulator

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2005-0111851 A1 (HOON KIM et al.) 26 May 2005 See abstract; fig. 1	1-24
A	US 2003-0175036 A1 (PAVEL V. MAMYSHEV et al.) 18 September 2003 See abstract; fig. 1	1-24

 Further documents are listed in the continuation of Box C. See patent family annex.

\* Special categories of cited documents:

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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2005-0111851 A1	26.05.2005	None	
US 2003-0175036 A1	18.09.2003	US 7366425 B2	29.04.2008