

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
11 November 2010 (11.11.2010)

PCT

(10) International Publication Number
WO 2010/128268 A3

- (51) International Patent Classification:
H04B 10/30 (2006.01) *H04Q 11/00* (2006.01)
- (21) International Application Number:
PCT/GB2009/051437
- (22) International Filing Date:
26 October 2009 (26.10.2009)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
0907936.9 8 May 2009 (08.05.2009) GB
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- (81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,

AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

- Published:
- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))
- (88) Date of publication of the international search report:
23 December 2010

(54) Title: METHOD AND APPARATUS FOR SELECTIVELY ROUTING ENTANGLEMENT BUILDING

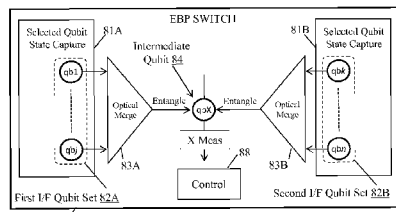


Figure 11

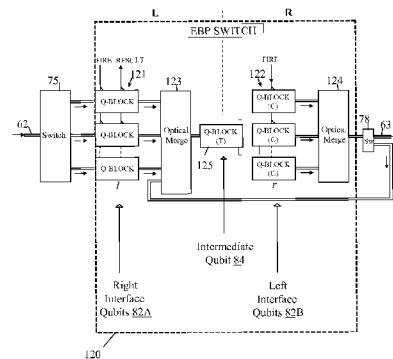


Figure 12

(57) Abstract: A method and apparatus (80) are provided for routing entanglement building between a selected pairing of interface qubits(82). The qubits of the selected pairing of interface qubits (82) are separately entangled with at least one intermediate qubit (84) by interacting respective light fields with the interface qubits of the selected pairing and using an optical merge arrangement (83) to further interact the light fields with at least one intermediate qubit(84). Where there are multiple intermediate qubits (84) the intermediate qubits are entangled with each other. The or each entangled intermediate qubit (84) is then removed from entanglement.

WO 2010/128268 A3

INTERNATIONAL SEARCH REPORT

International application No

PCT/GB2009/051437

A. CLASSIFICATION OF SUBJECT MATTER
 INV. H04B10/30 H04Q11/00
 ADD.

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)
 G06N H04L H04B H04Q

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

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

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 1 383 267 A1 (JAPAN SCIENCE & TECH CORP [JP] JAPAN SCIENCE & TECH AGENCY [JP]) 21 January 2004 (2004-01-21) pages 2-5,17; figure 5	1-19
A	WO 2006/019858 A2 (HEWLETT PACKARD DEVELOPMENT CO [US]; MUNRO WILLIAM J [GB]; SPILLER TIM) 23 February 2006 (2006-02-23) the whole document	1-19
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A	US 2003/002674 A1 (NAMBU YOSHIHIRO [JP] ET AL) 2 January 2003 (2003-01-02) pages 27-29; figures 10,11 pages 1-8	1-19



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Date of the actual completion of the international search

14 October 2010

Date of mailing of the international search report

03/11/2010

Name and mailing address of the ISA/

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Authorized officer

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/GB2009/051437

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