

(51) International Patent Classification:
H04B 10/70 (2013.01)

(21) International Application Number:

PCT/IL2022/051129

(22) International Filing Date:

26 October 2022 (26.10.2022)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

63/271,929 26 October 2021 (26.10.2021) US

(71) Applicant: **QUANT L R LTD** [IL/IL]; 24 Hebron Road,
9354212 Jerusalem (IL).(72) Inventors: **LIVNEH, Nitzan**; 28 Meiron St., 9076424
Mevasseret Zion (IL). **EISENBERG, Hagai**; 7 KibutzGaluyot, 9362511 Jerusalem (IL). **PILNYAK, Yehuda**; 10
Zeitlin St., 6495618 Tel-Aviv (IL). **ROSENFELDER, Pin-**
has; Nahal Shimshon 16/6, 9962216 Bet Shemesh (IL).(74) Agent: **JACOBSON, Zvi**; Cohn, De Vries, Stadler & Co.,
P.O.B 10278, 6110103 Tel Aviv (IL).(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, BN, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM,
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE,
KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU,
LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG,
NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS,
RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH,

(54) Title: DISCRETE PULSE CONTROL FOR PHASE RANDOMIZATION APPLICATIONS

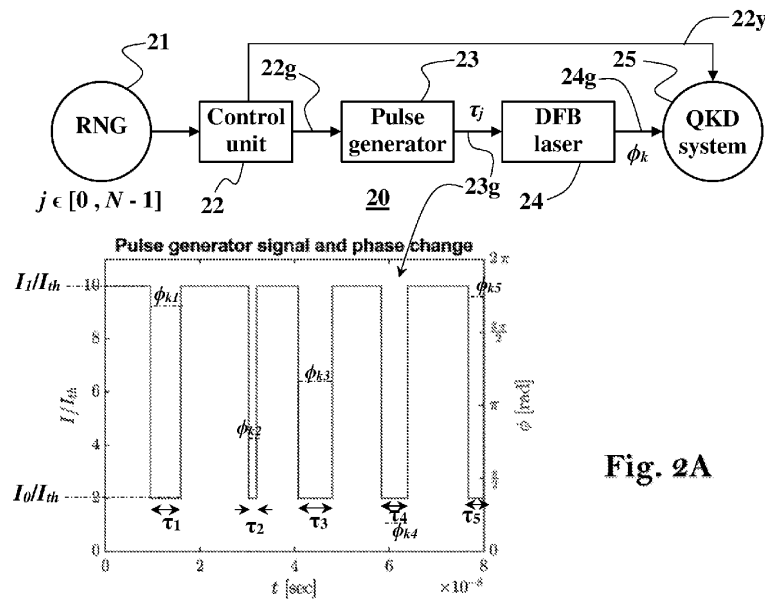


Fig. 2A

(57) **Abstract:** Techniques for controlling light/radiation emitted from a laser light source are disclosed, wherein electric supply signals of a laser light source are modulated for generating a plurality of fixed predefined working supply signals configured to drive the laser light source during time intervals in which the light/radiation thereby emitted is encoded with data, and variable idle supply signals for driving the laser light source between the data encoding time intervals. The modulating comprises at least one of generating the idle supply signals to include random time intervals and fixed idle supply signal level/intensity greater than a lasing threshold of said laser light source, and/or generating the idle supply signals to include idle supply signals having random levels/intensities or randomly alternated levels/intensities greater than a lasing threshold of said laser light source, to thereby affect random phase changes between said data encoding time intervals without reducing the supply signal below said lasing threshold.

[Continued on next page]

TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS,
ZA, ZM, ZW.

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

Declarations under Rule 4.17:

— *of inventorship (Rule 4.17(iv))*

Published:

— *with international search report (Art. 21(3))*
