



(51) International Patent Classification:

G02B 6/10 (2006.01) G02F 1/025 (2006.01)
G02B 6/42 (2006.01) G02F 1/29 (2006.01)
G02B 6/43 (2006.01)

(21) International Application Number:

PCT/IL2021/051502

(22) International Filing Date:

19 December 2021 (19.12.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/146,659 07 February 2021 (07.02.2021) US

(71) Applicant: **NEUPHOTONICS LTD.** [IL/IL]; 65 Ha-Pardes St., 7685400 Kfar Mordechai (IL).

(72) Inventors: **BEN EZRA, Yosef**; Itzhak Ben-Zvi 27, 4902610 Petah Tikva (IL). **BEN HAIM, Yaniv**; 65 Ha-Pardes St., 7685400 Kfar-Mordechai (IL).

(74) Agent: **GLAZBERG, Ziv**; 3 HaYetzira St., 5252141 Ramat Gan (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, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, 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, 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, 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, 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).

(54) Title: DEVICE AND METHOD FOR CALIBRATION, MONITORING AND CONTROL OF THE INTEGRATED PHOTONIC SYSTEMS

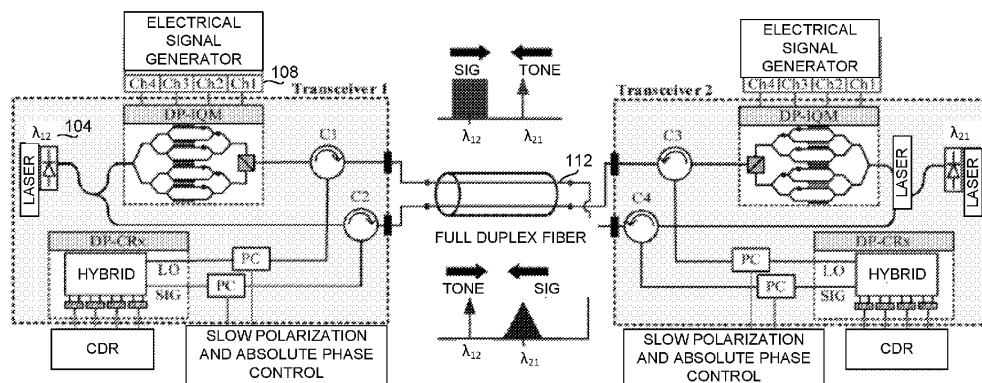


FIG. 1

(57) Abstract: A device and methods, the device comprising: a photo detector comprising a waveguide; two metal layers connected to the photo detector; a measurement device connected between the two metal layers, for measuring an electric parameter between the two metal layers, said electric parameter indicative of an amount of light propagating through the waveguide; and a voltage source connected between the two metal layers, wherein applying voltage between the two metal layers changes a refraction index of the waveguide, thereby affecting a phase of light propagating through the waveguide, and wherein the voltage to be applied is determined in accordance with the resistance measured by the resistance measurement device.

[Continued on next page]

Published:

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