



(51) International Patent Classification:

G02B 6/00 (2006.01) **G02B 6/34** (2006.01)
G02B 6/26 (2006.01) **G02B 6/42** (2006.01)
G02B 6/28 (2006.01)

(21) International Application Number:

PCT/SG2011/000317

(22) International Filing Date:

15 September 2011 (15.09.2011)

(25) Filing Language:

English

(26) Publication Language:

English

(71) Applicant (for all designated States except US): **NITTO DENKO CORPORATION** [SG/JP]; 1-1-2 Shimohozumi Ibaraki, Osaka 5678680 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **TAKAYAMA, Kazuya** [JP/SG]; c/o Nitto Denko Asia Technical Centre, 3 Fusionopolis Way, #05-21, Symbiosis, Singapore 138633 (SG). **BHOLA, Bipin Sewakram** [IN/SG]; c/o Nitto Denko Asia Technical Centre, 3 Fusionopolis Way, #05-21, Symbiosis, Singapore 138633 (SG).

(74) Agents: **ELLA CHEONG SPRUSON AND FERGUSON (SINGAPORE) PTE LTD** et al.; PO Box 1531, Robinson Road Post Office, Singapore 903031 (SG).

(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, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, 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, ML, MR, NE, SN, TD, TG).

Published:

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

(54) Title: METHOD AND STRUCTURE FOR COUPLING LIGHT INTO A WAVEGUIDE COMPRISING NANO - SIZED SCATTERING ELEMENTS

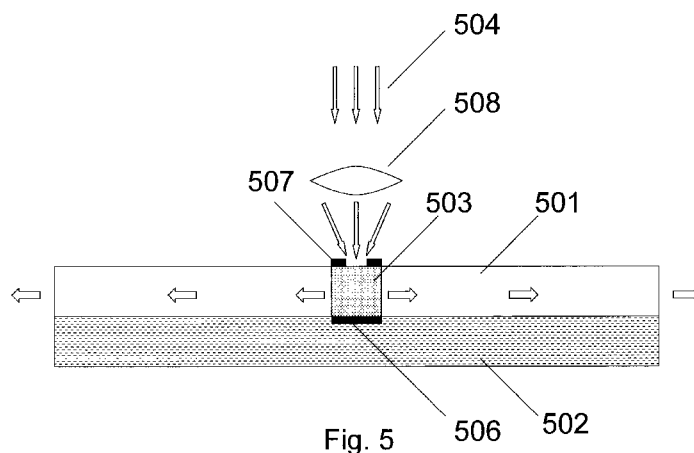


Fig. 5

(57) Abstract: A method and structure for coupling light into a waveguide (501, 502). The method comprises the steps of providing nano- sized or sub-micron scattering elements in a coupling spot (503) disposed in a plane of a waveguide core (501) of the waveguide; directing the light (504) into the coupling spot; and subjecting the light to scattering at the scattering elements such that at least a portion of the scattered light is coupled into the waveguide core (501).

