

(12) International Application Status Report

Received at International Bureau: 23 December 2018 (23.12.2018)

Information valid as of: 07 July 2020 (07.07.2020)

Report generated on: 19 September 2020 (19.09.2020)

(10) Publication number:

WO2020/117277

(43) Publication date:

11 June 2020 (11.06.2020)

(26) Publication language:

English (EN)

(21) Application Number:

PCT/US2018/065039

(22) Filing Date:

11 December 2018 (11.12.2018)

(25) Filing language:

English (EN)

(31) Priority number(s):

16/213,992 (US)

(31) Priority date(s):

07 December 2018 (07.12.2018)

(31) Priority status:

Priority document received (in compliance with PCT Rule 17.1)

(51) International Patent Classification:

G02B 26/10 (2006.01); G01S 17/93 (2006.01); G01S 7/481 (2006.01)

(71) Applicant(s):

BEIJING VOYAGER TECHNOLOGY CO, LTD. [CN/CN]; No. 218, 2nd Floor, Building 34 No. 8 Dongbeiwang West Road, Haidian District Beijing (CN) *(for all designated states)*

(72) Inventor(s):

WANG, Youmin; c/o DiDi Research America, LLC 450 National Avenue Mountain View, California 94043 (US)
ZHOU, Qin; c/o DiDi Research America, LLC 450 National Avenue Mountain View, California 94043 (US)

(74) Agent(s):

EUREK, Justin; Kilpatrick Townsend & Stockton LLP Mailstop: IP-Docketing-22 1100 Peachtree Street, Suite 2800 Atlanta, Georgia 30309 (US)

(54) Title (EN): MIRROR ASSEMBLY FOR LIGHT STEERING

(54) Title (FR): ENSEMBLE MIROIR DE GUIDAGE DE LUMIÈRE

(57) Abstract:

(EN): Methods and systems for light steering are proposed. In one example, an apparatus comprises: a light source; a receiver; a microelectromechanical system (MEMS) and a controller. The MEMS comprises: an array of first rotatable mirrors to receive and reflect the light beam from the light source and a second rotatable mirror to receive the light beam reflected by the array of first rotatable mirrors. The controller is configured to rotate, respectively, the array of first rotatable mirrors and the second rotatable mirror to set a first angle of light path with respect to a first dimension and to set a second angle of the light path with respect to a second dimension orthogonal to the first dimension to perform at least one of: reflecting light from the light source along the light path, or reflecting input light propagating along the light path to the receiver.

(FR): La présente invention concerne des procédés et des systèmes de guidage de lumière. Dans un exemple, un appareil comprend : une source de lumière; un récepteur; un système microélectromécanique (MEMS) et un dispositif de commande. Le MEMS comprend : un réseau de premiers miroirs rotatifs pour recevoir et réfléchir le faisceau lumineux provenant de la source de lumière et un second miroir rotatif pour recevoir le faisceau lumineux réfléchi par le réseau de premiers miroirs rotatifs. Le dispositif de commande est configuré pour tourner, respectivement, le réseau de premiers miroirs rotatifs et le second miroir rotatif pour régler un premier angle de trajet de lumière par rapport à une première dimension et pour régler un second angle du trajet de lumière par rapport à une seconde dimension orthogonale à la première dimension pour effectuer au moins l'une de : réfléchir la lumière provenant de la source de lumière le long du trajet de lumière, ou réfléchir la lumière d'entrée se propageant le long du trajet de lumière vers le récepteur.

International search report:

Received at International Bureau: 18 March 2019 (18.03.2019) [SG]

International Report on Patentability (IPRP) Chapter II of the PCT:

Not available

(81) Designated States:

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, 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, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

European Patent Office (EPO) : 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

African Intellectual Property Organization (OAPI) : BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG

African Regional Intellectual Property Organization (ARIPO) : BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW

Eurasian Patent Organization (EAPO) : AM, AZ, BY, KG, KZ, RU, TJ, TM