(12) International Application Status Report

Received at International Bureau: 15 December 2017 (15.12.2017)
Information valid as of: 12 February 2019 (12.02.2019)
Report generated on: 24 July 2019 (24.07.2019)

(10) Publication number:
WO2019/041622

(43) Publication date:
07 March 2019 (07.03.2019)

(26) Publication language:
Chinese (ZH)

(21) Application Number:
PCT/CN2017/114739

(22) Filing Date:
06 December 2017 (06.12.2017)

(25) Filing language:
Chinese (ZH)

(31) Priority number(s):
201730406193.5 (CN)

(31) Priority date(s):
30 August 2017 (30.08.2017)

(31) Priority status:
Priority document received (in compliance with PCT Rule 17.1)

(51) International Patent Classification:
G03B 21/00 (2006.01)

(71) Applicant(s):
APPOTRONICS CORPORATION LIMITED [CN/CN]; 20F-22F, High-Tech Zone Union Tower, No.63, Xuefu Road, Yuehai Street, Nanshan District, Shenzhen, Guangdong 518000 (CN) *(for all designated states)*

(72) Inventor(s):
HU, Fei; 20F-22F, High-Tech Zone Union Tower, No.63, Xuefu Road, Yuehai Street, Nanshan District, Shenzhen, Guangdong 518000 (CN)
GUO, Zuqiang; 20F-22F, High-Tech Zone Union Tower, No.63, Xuefu Road, Yuehai Street, Nanshan District, Shenzhen, Guangdong 518000 (CN)
DU, Peng; 20F-22F, High-Tech Zone Union Tower, No.63, Xuefu Road, Yuehai Street, Nanshan District, Shenzhen, Guangdong 518000 (CN)
LI, Yi; 20F-22F, High-Tech Zone Union Tower, No.63, Xuefu Road, Yuehai Street, Nanshan District, Shenzhen, Guangdong 518000 (CN)

(54) Title (EN): PROJECTION SYSTEM

(54) Title (FR): SYSTÈME DE PROJECTION

(54) Title (ZH): 投影系统

(57) Abstract:

(EN): A projection system, comprising a light modulation device (608), a light source system (10) and a light offset device (607). The light source system (10) is used for emitting one or more illumination sub-beams. The light modulation device (608) is used for modulating illumination light according to image data to form image light, the image light being used for displaying an image corresponding to the image data. The light offset device (607) is used for transferring one illumination sub-beam to each zone of a micro-mirror unit (6080) by means of a time sequence such that the micro-mirror unit (6080) modulates the illumination sub-beam by means of a time sequence to form image light of a pixel corresponding to each zone, wherein each zone corresponds to one pixel of an image. The projection system may achieve a high-resolution projection picture by means of forming repeated illumination on the micro-mirror unit (6080), and may lessen or prevent insufficient light diffraction that is caused by the micro-mirror unit (6080) being too small.

(FR): L'invention concerne un système de projection, comprenant un dispositif de modulation de la lumière (608), un système de source de lumière (10) et un dispositif de décalage de la lumière (607). Le système de source de lumière (10) permet d'émettre un ou plusieurs sous-faisceaux d'éclairage. Le dispositif de modulation de la lumière (608) permet de moduler une lumière d'éclairage en fonction de données d'image afin de former une lumière d'image, la lumière d'image étant utilisée pour afficher une image correspondant aux données d'image. Le dispositif de décalage de la lumière (607) permet de transférer un sous-faisceau d'éclairage à chaque zone d'une unité de micro-miroir (6080) au moyen d'une séquence temporelle de sorte que l'unité de micro-miroir (6080) module le sous-faisceau d'éclairage au moyen d'une séquence temporelle afin de former une lumière d'image d'un pixel correspondant à chaque zone, chaque zone correspondant à un pixel d'une image. Le système de projection peut réaliser une image de projection à haute résolution par formation d'un éclairage répété sur l'unité de micro-miroir (6080), et peut réduire ou empêcher une diffraction insuffisante de la lumière due au fait que l'unité de micro-miroir (6080) est trop petite.

(ZH): 一种投影系统包括光调制装置(608)、光源系统(10)及光偏移装置(607)。该光源系统(10)用于发出一条或多条照明子光束。该光调制装置(608)用于根据图像数据调制照明光而形成图像光,该图像光用于显示图像数据对应的图像。该光偏移装置(607)用于将一条该照明子光束分时序移转至一个微镜单元(6080)的各分区,以使得一个该微镜单元(6080)分时序调制照明子光束以形成各分区对应像素的图像光,其中每一分区对应图像的一个像素。该投影系统通过在一个微镜单元(6080)上可形成多次照明,进而可实现高分辨率的投影画面,可减轻或避免由于微镜单元(6080)的尺寸过小而导致的光的衍射的不足。

International search report:
Received at International Bureau: 30 May 2018 (30.05.2018) [CN]

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