

(12) 按照专利合作条约所公布的国际申请

(19) 世界知识产权组织
国际局



(10) 国际公布号

WO 2022/057579 A1

(43) 国际公布日
2022 年 3 月 24 日 (24.03.2022)

- (51) 国际专利分类号:
G06F 3/01 (2006.01) *G06T 7/73* (2017.01)
G06T 7/246 (2017.01) *G06T 19/00* (2011.01)
- (21) 国际申请号: PCT/CN2021/114364
- (22) 国际申请日: 2021 年 8 月 24 日 (24.08.2021)
- (25) 申请语言: 中文
- (26) 公布语言: 中文
- (30) 优先权:
202010974857.9 2020 年 9 月 16 日 (16.09.2020) CN
- (71) 申请人: 青岛小鸟看看科技有限公司(QINGDAO PICO TECHNOLOGY CO., LTD.) [CN/CN]; 中国山东省青岛市崂山区松岭路393号北京航空航天大学青岛研究院3号楼4楼, Shandong 266000 (CN)。
- (72) 发明人: 吴涛(WU, Tao); 中国山东省青岛市崂山区松岭路393号北京航空航天大学青岛研究院3号楼4楼, Shandong 266000 (CN)。
- (74) 代理人: 北京康信知识产权代理有限公司(KANGXIN PARTNERS, P.C.); 中国北京市海淀区知春路甲48号盈都大厦A座16层, Beijing 100098 (CN)。
- (81) 指定国(除另有指明, 要求每一种可提供的国家保护): 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,

(54) Title: POSITIONING AND TRACKING METHOD AND PLATFORM, HEAD-MOUNTED DISPLAY SYSTEM, AND COMPUTER-READABLE STORAGE MEDIUM

(54) 发明名称: 定位追踪方法和平台、头戴显示系统和计算机可读存储介质

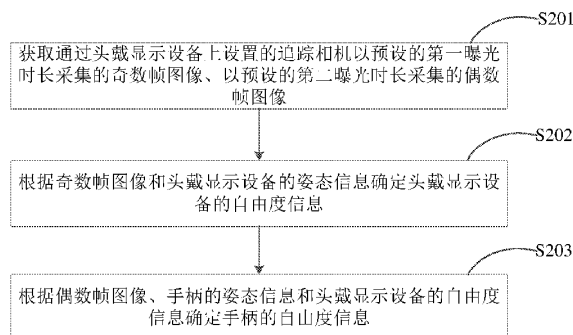


图 2

- S201 Acquire an odd number of frames of images acquired, within a preset first exposure duration, by a tracking camera disposed on a head-mounted display device and an even number of frames of images acquired within a preset second exposure duration
- S202 Determine degree-of-freedom information of the head-mounted display device according to the odd number of frames of images and pose information of the head-mounted display device
- S203 Determine degree-of-freedom information of a handle according to the even number of frames of images, pose information of the handle, and the degree-of-freedom information of the head-mounted display device

(57) Abstract: Provided in the embodiments of the present disclosure are a positioning and tracking method, a positioning and tracking platform, a head-mounted display system, and a computer-readable storage medium. The method comprises: acquiring an odd number of frames of images acquired, within a preset first exposure duration, by a tracking camera disposed on a head-mounted display device and an even number of frames of images acquired within a preset second exposure duration, wherein the even number of frames of

[见续页]

WO 2022/057579 A1

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) 指定国 (除另有指明, 要求每一种可提供的地区
保护): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ,
NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), 欧亚 (AM,
AZ, BY, KG, KZ, RU, TJ, TM), 欧洲 (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)。

本国际公布:

— 包括国际检索报告 (条约第21条(3))。

images at least comprise light spots corresponding to a plurality of light emitters disposed on a handle, and the handle is in communication connection with the head-mounted display device (S201); determining degree-of-freedom information of the head-mounted display device according to the odd number of frames of images and pose information of the head-mounted display device (S202); and determining degree-of-freedom information of the handle according to the even number of frames of images, pose information of the handle, and the degree-of-freedom information of the head-mounted display device (S203).

(57) 摘要: 本公开实施例提供了定位追踪方法、定位追踪平台、头戴显示系统和计算机可读存储介质, 该方法包括: 获取通过头戴显示设备上设置的追踪相机以预设的第一曝光时长采集的奇数帧图像、以预设的第二曝光时长采集的偶数帧图像, 其中, 所述偶数帧图像中至少包括手柄上设置的多个发光体对应的光斑, 所述手柄与所述头戴显示设备通信连接(S201); 根据所述奇数帧图像和所述头戴显示设备的姿态信息确定所述头戴显示设备的自由度信息(S202); 根据所述偶数帧图像、所述手柄的姿态信息和所述头戴显示设备的自由度信息确定所述手柄的自由度信息(S203)。