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- (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, 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。
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(54) Title: FOCUSING AND LEVELING DEVICE

(54) 发明名称: 一种调焦调平装置

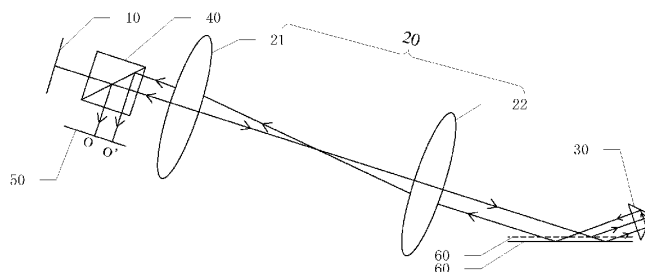


图 3

(57) Abstract: A focusing and leveling device for calculating the defocusing amount and/or tilt amount of a substrate (60), comprising a lighting unit, a projection marking plate (10) with a projection slit marker, a projection imaging group (20), a refractive prism (30), a light splitter (40), a detection unit and a signal processing unit. A beam generated from the lighting unit forms a measurement light spot after passing through the projection marking plate (10). The projection imaging group (20) images the measurement light spot onto the surface of the substrate (60). The refractive prism (30) is used for enabling the beam, which is reflected by the surface of the substrate (60) for the first time, to be incident again onto the surface of the substrate (60) after being refracted, such that the beam which is reflected by the surface of the substrate (60) for the second time passes through the projection imaging group (20). The light splitter (40) is used for guiding the beam which is reflected by the surface of the substrate (60) for the second time to the detection unit. The signal processing unit calculates the defocusing amount and/or tilt amount of the surface of the substrate (60), according to the measurement light spot detected by the detection unit. The focusing and leveling device has a simple structure, is easy to install and regulate, and can improve the detection accuracy.

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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))。

(57) 摘要：一种调焦调平装置，用于计算一基底（60）的离焦量和/或倾斜量，包括照明单元、带投影狭缝标记的投影标记板（10）、投影成像组（20）、折光棱镜（30）、分光镜（40）、探测单元及信号处理单元，照明单元产生的光束经投影标记板（10）后形成测量光斑，投影成像组（20）将测量光斑成像至基底（60）表面，折光棱镜（30）用于将经基底（60）表面第一次反射的光束折转后再次入射至基底（60）表面，并使得经基底（60）表面第二次反射的光束经过投影成像组（20），分光镜（40）用于将经基底（60）表面第二次反射的光束引导至探测单元，信号处理单元根据探测单元测得的探测光斑计算基底（60）表面的离焦量和/或倾斜量。这种调焦调平装置结构简单、方便装调，且能提高探测精度。