

What is Claimed is:

1. A substrate imaging apparatus comprising:
 - a rotary holding unit that holds and rotates a substrate
5 about a rotation axis;
 - a mirror member having a reflecting surface that opposes an apex of the substrate and a peripheral portion of a back surface of the substrate held by the rotary holding unit, the reflecting surface being inclined with respect to a rotation axis of the rotary
10 holding unit; and
 - a camera having an imaging device that receives both first light and second light through a lens, wherein the mirror member and the camera are configured and disposed such that:
 - the first light having been reflected by an inner peripheral
15 portion of a front surface of the substrate held by the rotary holding unit comes into the camera without being reflected by the mirror member, the inner peripheral portion extending in a plane perpendicular to the rotation axis of the substrate;
 - the second light having been reflected by an outer peripheral
20 portion of the substrate held by the rotary holding unit is reflected by the mirror member and then comes into the camera, with the outer peripheral portion extending radially outside the inner peripheral portion so as to be inclined with respect to the inner peripheral portion and containing the apex; and
 - 25 the first light and the second light come into the same imaging device of the same camera.
2. The substrate imaging apparatus according to claim 1,
30 wherein the reflecting surface is a curved surface that is recessed away from the apex of the substrate held by the rotary holding unit.
 3. The substrate imaging apparatus according to claim 1 or 2,

further comprising a focus adjusting lens disposed in an optical path of the second light extending from the reflecting surface to the lens in order to adjust an image forming position, at which an image of the apex of the substrate is formed, onto the imaging device.

4. The substrate imaging apparatus according to any one of claims 1 to 3, further comprising an illuminating unit including a light source and a light diffusing member that diffuses light from the light source toward a first direction perpendicular to an optical axis of the light from the light source in order to generate diffused light, wherein the illuminating unit irradiates the inner peripheral portion of the front surface of the substrate held by the rotary holding unit with the diffused light, and irradiates the reflecting surface of the mirror member with the diffused light in order to allow the diffused light reflected by the mirror member to fall on the apex of the substrate held by the rotary holding unit.

5. The substrate imaging apparatus according to claim 4, wherein the illuminating unit further includes:

a light scattering member that scatters the light from the light source to generate scattered light; and

a cylindrical lens that allows the scattered light from the light scattering member to pass through the light diffusing member, the cylindrical lens being convex toward the light diffusing member,

wherein the cylindrical lens diffuses light coming into the cylindrical lens toward a second direction perpendicular to an optical axis of the light emitted from the light source and perpendicular to the first direction.