What is claimed is:

1. A pad-surface determination method of determining a surface property of a polishing pad having a polishing surface for polishing a substrate, comprising:

irradiating a target area in the polishing surface with a plurality of lights from a plurality of light emitters at different incident angles, a protrusion being formed on the polishing surface in the target area;

receiving a plurality of reflected lights from the target area by an imaging device;

generating a plurality of images corresponding to the different incident angles by the imaging device; and

determining the surface property of the polishing pad based on at least one of the plurality of images.

2. The pad-surface determination method according to claim 1, wherein determining the surface property of the polishing pad comprises generating a pad-surface index value from the at least one image.

3. The pad-surface determination method according to claim 2, wherein the pad-surface index value is calculated based on brightness information of an image.

4. The pad-surface determination method according to claim 3, wherein generating the pad-surface index value from the at least one image comprises:

creating a differential image or division image from the plurality of images; and

calculating the pad-surface index value based on brightness information of the differential image or division image.

5. The pad-surface determination method according to claim 1, wherein the plurality of lights from the plurality of light emitters include a first light having a wavelength within

a first wavelength range emitted from a first light emitter, and a second light having a wavelength within a second wavelength range emitted from a second light emitter, and the first wavelength range is different from the second wavelength range.

6. The pad-surface determination method according to claim 5, wherein the first light emitter and the second light emitter simultaneously irradiate the target area with the first light and the second light at the different incident angles.

7. The pad-surface determination method according to claim 5, wherein the plurality of images corresponding to the different incident angles are simultaneously generated by the imaging device.

8. The pad-surface determination method according to claim 2, further comprising repeating irradiation of the target area with the plurality of lights and generation of the plurality of images from the plurality of reflected lights by the imaging device to obtain a plurality of time-differential images of a plurality of groups corresponding to the different incident angles,

wherein generating the pad-surface index value comprises generating a differential image or division image from a plurality of time-differential images within a group of the same incident angle, and calculating the pad-surface index value based on brightness information of the differential image or division image.

9. The pad-surface determination method according to claim 2, further comprising:

repeating irradiation of the target area with the plurality of lights, generation of the plurality of images from the plurality of reflected lights by the imaging device, and generation of the pad-surface index value to obtain a plurality of pad-surface index values; and

calculating a variance of the plurality of pad-surface index values.

10. The pad-surface determination method according to claim 1, wherein determining the surface property of the polishing pad based on the at least one image comprises:

inputting the at least one image into a determination model constructed by machine learning; and

outputting a determination result of the surface property of the polishing pad from the determination model.

11. A pad-surface determination system for determining a surface property of a polishing pad having a polishing surface for polishing a substrate, comprising:

a plurality of light emitters configured to irradiate a target area in the polishing surface with a plurality of lights at different incident angles, a protrusion being formed on the polishing surface in the target area;

an imaging device configured to receive a plurality of reflected lights from the target area and generates a plurality of images from the plurality of reflected lights; and

a system processing device configured to determine the surface property of the polishing pad based on at least one of the plurality of images.

12. The pad-surface determination system according to claim 11, wherein the system processing device is configured to generate a pad-surface index value from the at least one image.

13. The pad-surface determination system according to claim 12, wherein the pad-surface index value is calculated based on brightness information of an image.

14. The pad-surface determination system according to claim 13, wherein the system processing device is configured to create a differential image or a division image from the plurality of images, and calculate the pad-surface index value based on brightness information of the differential image or the division image.

15. The pad-surface determination system according to claim 11, wherein the plurality of light emitters include a first light emitter configured to emit a first light having a wavelength within a first wavelength range, and a second light emitter configured to emit a second light having a wavelength within a second wavelength range, the first wavelength range being different from the second wavelength range.

16. The pad-surface determination system according to claim 15, wherein the system processing device is configured to instruct the first light emitter and the second light emitter to simultaneously irradiate the target area with the first light and the second light.

17. The pad-surface determination system according to claim 15, wherein the imaging device is configured to simultaneously generate the plurality of images from first reflected light and second reflected light corresponding to the first light and the second light, respectively.

18. The pad-surface determination system according to claim 11, wherein the plurality of light emitters include a first set of light emitters and a second set of light emitters, the first set of light emitters being located in a first direction from the target area as viewed from a direction perpendicular to the polishing surface of the polishing pad, and the second set of light emitters being located in a second direction from the target area as viewed from the direction perpendicular to the polishing surface of the polishing pad.

19. The pad-surface determination system according to claim 11, wherein the system processing device is configured to input the at least one image into a determination model constructed by machine learning, and output a determination result of the surface property of the polishing pad from the determination model.