問１）

Claim 1

A photosensor comprising:

a light-emitting section that emits pulsed light toward outside based on a pulse signal;

a light-receiving section that generates a photocurrent corresponding to an intensity of light entered from outside;

a current-voltage converting circuit that converts the photocurrent into a voltage signal;

a high-pass filter that extracts from the voltage signal an alternating-current component having a predetermined frequency or higher, and outputs the alternating-current component as a filter output exhibiting a signal waveform whose center is a reference voltage;

a polarity inverting amplifier that is switched between a noninverting amplifier state and an inverting amplifier state according to the pulse signal, the polarity inverting amplifier not inverting the filter output so as to output the filter output in the noninverting amplifier state, and the polarity inverting amplifier inverting the filter output with respect to the reference voltage so as to output the filter output in the inverting amplifier state; and

an integrator that integrates outputs from the polarity inverting amplifier based on the reference voltage.

Claim 2

The photosensor according to claim 1, further comprising:

a delay circuit that delays the pulse signal and outputs the delayed pulse signal to the polarity inverting amplifier.

問２）

There have been known game systems for generating an image viewed from a given view point in an object space, which is a virtual three-dimensional space. Such game systems allow a user to experience so-called virtual reality, and thus are very popular. For example, in a role-playing game, a player operates a character (object) so as to move the character on a map in an object space. The player enjoys the game, for

example, by making the character battle against an opponent character, by making the character talk with another character, or by making the character visit various towns.

In a game system as above, an object representing a character or the like is typically constituted by a plurality of polygons. The object constituted by the polygons is positioned in an object space. So-called geometry processing is performed thereon, so that an image viewed from a virtual camera is generated. This makes it possible to generate a game image without any inconsistency even when the object is viewed from various directions by the virtual camera.

However, the game image generated in this manner involves a problem of failing to arouse sympathy of the player so much, although such a game image is mathematically correct. For example, in order to represent a character in an animation work or a cartoon by an object, shading may be given to the object, e.g., by Gouraud shading. This enables to yield an image which is realistic but has an atmosphere different from that familiar to viewers in the animation work or the cartoon.

問3）

As shown in Fig. 4, when a human sensor 25, which is provided on the outside of an entrance door together with a luminaire 20, detects a human 30, an illuminating lamp of the luminaire 20 is first lit. When the luminaire 20 is lit, a current that has flowed through the luminaire 20 is detected by a current detection circuit 14 (Fig. 3).

Triggered by a current detection signal from the current detection circuit 14, a control unit 200 lights an illuminating lamp of a luminaire 10 after a predetermined lighting interval time period has elapsed since the lighting of the illuminating lamp of the luminaire 20 according to pre-set setting condition information, for example. Thus, by use of such an illumination system 100, for example, when the human 30 is a suspicious person, it is possible to make the human 30 think as if a resident is present inside the room. Accordingly, the illumination system 100 is useful to crime prevention.

According to the current detection signal from the current detection circuit 14, a control section 15 reports the lighting of the illuminating lamp of the luminaire 20, e.g., by controlling an LED circuit 17 so as to light an LED, and turns on a switching section 19 after a pre-set lighting interval time period t1 has elapsed since the lighting of the illuminating lamp of the luminaire 20. When the switching section 19 is turned on, a current is flown to a lamp wire of the luminaire 10, so that the luminaire 10 becomes a lighting state in which the illuminating lamp of the luminaire 10 is lit.