CLAIMS

Claim 1:

A display panel comprising a plurality of pixel sets, each of the pixel sets comprising at least one first pixel and at least one second pixel, wherein

the at least one first pixel comprises:

a first light emitting element; and

a first light blocking structure, configured on a light emitting side of the first light emitting element, and comprising a bottom portion, a slope portion, and a top portion that are integrally formed,

the at least one second pixel comprises:

a second light emitting element, emitting light of a same color as the first light emitting element; and

a second light blocking structure, configured on a light emitting side of the second light emitting element, wherein the second light blocking structure is disposed symmetrically with respect to a first fictitious plane, and the first fictitious plane passes through a geometric center of a light emitting surface of the second light emitting element,

wherein when the display panel is in a private mode, the first light emitting element is turned on and the second light emitting element is turned off.

Claim 2:

The display panel according to claim 1, wherein when the display panel is in a normal mode, both the first light emitting element and the second light emitting element are turned on.

Claim 3:

The display panel according to claim 1, wherein a vertical projection of the first light blocking structure on a light emitting surface of the first light emitting element does not overlap a geometric center of the light emitting surface of the first light emitting element, and a vertical projection of the second light blocking structure on a light emitting surface of the second light emitting element does not overlap a geometric center of the light emitting surface of the second light emitting element.

Claim 4:

The display panel according to claim 1, wherein the first light blocking structure is a three-dimensional structure, and the second light blocking structure is a planar structure.

Claim 5:

The display panel according to claim 1, wherein the second light blocking structure is configured on a same layer as the bottom portion of the first light blocking structure.

Claim 6:

The display panel according to claim 1, wherein the at least one first pixel further comprises a third light blocking structure, and the third light blocking structure is configured on the light emitting side of the first light emitting element and comprises a bottom portion, a slope portion, and a top portion that are integrally formed.

Claim 7:

The display panel according to claim 6, wherein the first light blocking structure and

the third light blocking structure are disposed symmetrically with respect to a second fictitious plane, and the second fictitious plane passes through a geometric center of a light emitting surface of the first light emitting element.

Claim 8:

The display panel according to claim 6, wherein the second light blocking structure, the bottom portion of the first light blocking structure, and the bottom portion of the third light blocking structure are configured on a same layer.

Claim 9:

The display panel according to claim 6, wherein a horizontal viewing angle of the at least one first pixel is less than a horizontal viewing angle of the at least one second pixel.

Claim 10:

The display panel according to claim 6, wherein a distance between the bottom portion of the first light blocking structure and the bottom portion of the third light blocking structure is greater than a distance between the top portion of the first light blocking structure and the top portion of the third light blocking structure.

Claim 11:

The display panel according to claim 1, wherein the at least one first pixel further comprises a third light blocking structure, comprising a bottom portion and a slope portion that are integrally formed, and a length of the slope portion of the first light blocking structure is greater than a length of the slope portion of the third light blocking structure.

Claim 12:

The display panel according to claim 11, wherein a distance between the bottom portion of the first light blocking structure and the bottom portion of the third light blocking structure and a light emitting surface of the first light emitting element in a positive viewing angle direction of the display panel is the same.

Claim 13:

The display panel according to claim 12, wherein the bottom portion of the first light blocking structure and the light emitting surface of the first light emitting element have a first distance (H1) in the positive viewing angle direction, the top portion of the first light blocking structure and the light emitting surface have a second distance (H2) in the positive viewing angle direction, a first end of the slope portion of the third light blocking structure away from the light emitting element and a top surface of the top portion of the first light blocking structure away from the light emitting element are spaced apart by a third distance (H3) in the positive viewing angle direction., the light emitting surface has a width (D3) in a first direction perpendicular to the positive viewing angle direction, a second end of the bottom portion of the first light blocking structure away from the light emitting element and a third end of the bottom portion of the third light blocking structure away from the light emitting element are spaced apart by a fourth distance (D4) in the first direction, a plurality of first light emitting elements of the display panel have a pitch (D5) in the first direction, and the first distance (H1) meets the conditional formula

$$H1 < (H2 - H3) \times \frac{D4-D3}{D4-D3+(2\times D5)}.$$

Claim 14:

The display panel according to claim 1, wherein the first light blocking structure comprises a reflective layer facing the first light emitting element.

Claim 15:

The display panel according to claim 1, wherein the at least one first pixel further comprises a microlens, and the first light blocking structure is configured between the first light emitting element and the microlens.