

Title (en)  
PROJECTION DEVICE AND PROJECTION METHOD

Title (de)  
PROJEKTIONSVORRICHTUNG UND PROJEKTIONSVERFAHREN

Title (fr)  
DISPOSITIF DE PROJECTION ET PROCÉDÉ DE PROJECTION

Publication  
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Application  
**EP 22757232 A 20220722**

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Abstract (en)  
[origin: WO2023006605A1] The invention relates to a projection device comprising an imaging module (2) which generates a multi-color image such that a first color sub-image with a first wavelength and a second color sub-image with a second wavelength are generated, a projection unit (3) which is supplied with the multi-color image and images said image into an exit pupil (6) such that the image can be perceived as a virtual image by a viewer when the eye (A) of the viewer is positioned in the exit pupil (6) and the viewer views the projection unit (3) at a specified viewing angle, wherein the projection unit (3) has a volume hologram which deflects the multi-color image into the exit pupil (6) for imaging purposes, and the volume hologram has a volume grid for each wavelength of the color sub-image, said volume grid having a respective deflection efficiency curve which is based on the viewing angle and which is maximal at the specified viewing angle such that a first efficiency ratio of the first deflection efficiency curve for the first wavelength to the deflection efficiency curve of the second wavelength is produced. The deflection efficiency curves for a specified angular range about the specified viewing angle are set such that the first efficiency ratio for the specified angular range is constant. The imaging module (2) is actuated such that when the multi-color image is generated, a first brightness ratio of the brightness of the first color sub-image to the brightness of the second color sub-image is inversely proportional to the first efficiency ratio such that the different deflection efficiency curves are compensated for and such that the viewer can perceive the multi-color image as a true-color virtual image at viewing angles from the specified angular range.

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