

Subjective Evaluation of Influence Decreasing Primary Color Saturation of UHD-TV Displays

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In the medical fields and industrial fields, color reproduction, which reproduces the same colors on displays as those seen by humans, is important. The standard for imaging equipment called UHD, has features such as high resolution, wide color gamut, and high dynamic range compared with standard for HD. With the color gamut has increased from HD to UHD, the saturation of primary colors of displays has increased. However, commercially available displays do not yet satisfy the color gamut defined in the standard. For this reason, each display would have different saturation is considered. Changing in saturation would affect the color reproducibility of displays is considered.

In this study, the perception of color change was evaluated when the saturation of one of primary colors was decreased in the display. Evaluation images were created by the method explained above with using the standard images while keep the hue and color temperature unchanged. The standard images and the images with changed saturation primary colors were displayed to the 21 subjects. The subjects evaluated the difference in color perception between one of standard images and one of images with different saturation . The results of the evaluation showed that the perception of the difference in saturation was greater when the standard image containing more red and green saturated colors were displayed.

Topics

Session D. Biomedical optics and sensors technology

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