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Subjective Evaluation of Color reproduction by Color Adjustment of UHD-TV Displays

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The standard for imaging equipment called UHD, has features such as high resolution, wide color gamut, and wide dynamic range compared with standard for HD. wide color gamut displays such as UHD compatible displays has been considering for application not only in the entertainment field but also in the medical and industrial fields. It is considered important for imaging equipment used in the entertainment field to give a good impression to the user, and color adjustment is performed. In the medical and industrial fields, image devices are subject to subjective inspection using the colors displayed on the display. It is desired to express the same color as a person sees on display in the medical and industrial fields. It is said that when color adjustments such as those used in the entertainment field are performed in the medical and industrial fields, it leads to misjudgment. According to the UHD standard, it meets 99% of naturally occurring reflected colors. It is difficult for UHD-compatible image equipment to sufficiently satisfy the color gamut defined as a standard due to the problem of the light emitting element. Trying to display a color outside the color range of the display, it tries to display by clipping the color outside the color range of the display. In this study, color adjustment by clipping the color gamut of the UHD-TV display was subjectively evaluated using UHD-compatible images for color reproducibility when viewed by humans, and the effect on color reproducibility was examined.

Topics

Session D. Biomedical optics and sensors technology

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