# PaPaLaB

PaPaLaB co,.Ltd.

Two-dimensional colorimeter advances you to the next color management.

Quantification of color and texture simultaneously!!

Two-dimensional colorimeter will be able to measure not only the color difference but the subtle texture's differece it has conventionally been difficult to do .

When you watch the color of the object, you watch it, including texture, such as gloss and metallic feeling. However, the conventional colorimeter by averaging the color, texture information was lost. The two-dimensional colorimeter shoot extensively as a camera, and statistically analyze with the software. Therefore, it is possible to quantify the texture of the car in metallic effect and gloss of human skin.
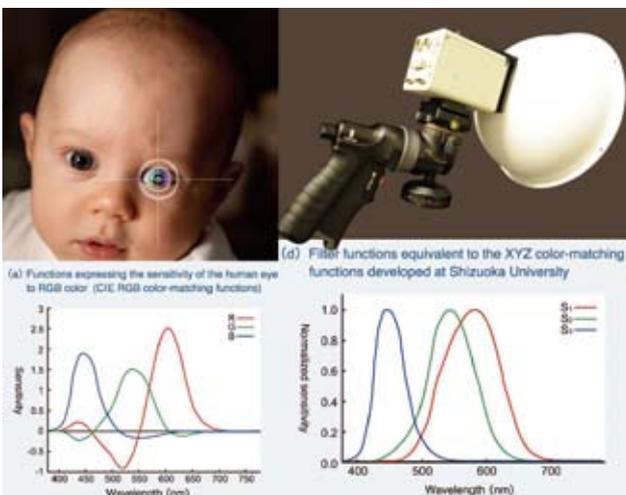
Two-dimensional colorimeter have a color sensitivity equivalent sensitivity of the human eye.

You can get a beautiful video & images of a given scene by RGB movie camera & RGB digital camera. However,the RGB camera is not sufficient for acquisition of colors in the whole visible gamut.

What is the common problem with the RGB camera? Normally we have only 3 filters which correspond to spectrum distributions within 3 main regions, Red Green and Blue. However, the camera has shifted the color to the point within the RGB triangle, this result in the shift of color that is outside of the border. Within that carve, we can see all the colors within that chart, however the camera can see only specified part of it. This is our reason of shift of the colors which are outside of the boundaries In camera. Their characters are very different. As we can see, cannot be used for High Fidelity color acquisition.

Two dimensional colorimeter covers the gamut of the human eye, Therefore, it allows for color acquisition with marvelous color fidelity.

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What's "color & texture matching figure"?

We propose a method called "color & texture matching figure"as a way to compare the color of the two test products.

The images taken by the two-dimensional colorimeter is analyzed by our dedicated software. Color data of several million pixels will be transfered and counted to the xy chromaticity space. We called "color & texture matching figure"of the overlapping part of their data, and it will help you out of color management.

1,2,3 metallic image, the average chromaticity values can be the same, metallic feeling are different. The three images, the human eye is recognized as a different color.

The difference between ours way and ΔE estimation by the mean Lab value.

As mentioned above,Lab value of metallic sense of different three inspection goods does not change significantly. On the other hand color distribution match the degree you can see that it reflects the difference in metallic effect.

	L	a	b	ΔE	color distribution matching degree
①	50.40	−1.96	10.60	–	–
②	50.52	−1.97	10.21	0.121	58%
③	51.13	−2.01	10.45	0.740	27%

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